PAPER TRADE JOURNAL

VOL. 123 NO. 16 OCTOBER 17, 1946

CURRENT SERIAL RECORDS
OCT 21 1946
U.S. DEPARTMENT OF AGRICULTURE

Every time you see "Kraft Paper" the chances are more than even that it was made with ASTEN DRYER FELTS
ASTEN-HILL MFG. CO., PHILADELPHIA
ASTEN-HILL LTD., VALLEYFIELD, QUE.

Newsprint Goes to $84 as Publishers Ask Decontrol
Hudson Valley Area Expands Its Operations
Time Considers Sale of Its Mills to St. Regis
Northland Confers Doctorate on Everest

Casein Faces Many Problems to Meet Paper Demands
Kimberly-Clark Moves Its Goal Up 25 Per Cent
Parker-Young Sells Mills in New Hampshire
Forest Chief Argues for Public Control

ELIMINATES SLOW DOWNS AND SHUTDOWNS

Due to Felts Filling Up

The Downingtown Suction Felt Roll continuously maintains the full width of press or pick-up felts clean and open at all times. This saves slowing down the machine as the felt fills up and eliminates frequent shutdowns for washing and roping. All this helps in maintaining production and quality. The roll is easily installed, often merely replacing a plain felt roll and it is unnecessary to remove the roll when changing felts. Over 200 now in use. Send for new catalog.

DOWNINGTOWN MFG. CO., DOWNINGTOWN, PA.

Installation on a cylinder board machine, pick-up felt.

Installation on machine making folding box and chip board.

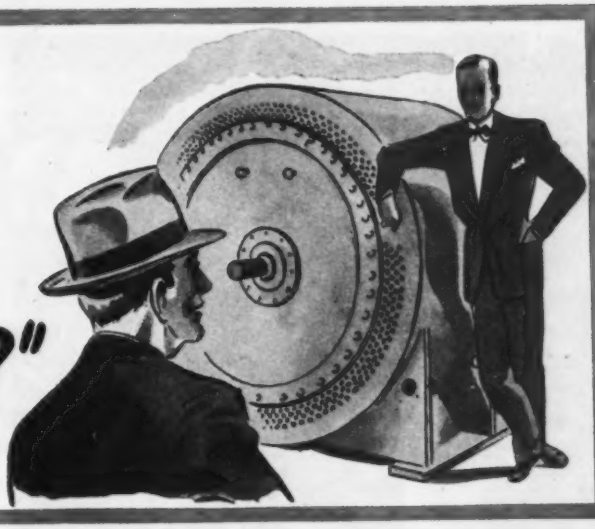
D

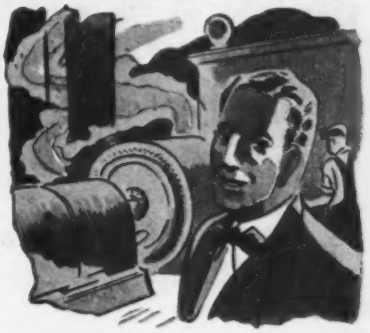
DOWNINGTOWN

Designers & Builders

Paper Making Machinery

"Did You Say, Up to 2000 hp ...Weatherproof?"





"Right. In Allis-Chalmers' modern motor line we're now prepared to offer you a *complete range* of outdoor weatherproof, totally-enclosed motors all the way from small, standard ratings to sizes of 2,000 hp or larger."

"Why, That Means Then," our customer exclaimed, "in larger ratings they fill the need of power plant engineers who want to install equipment like draft fans *outside*, and thus keep down structure costs per kw capacity." Right again —and they fit into *other* industries too!

Chemical, for instance. Here cast iron motors have generally been preferred ... because they stand up better under acid and alkali conditions. But now these *new* motors, with *new* design improvements, promise to provide several important operating advantages ...

We've Re-designed the heat-transfer system to *improve ventilation.* We've *reduced maintenance* by making air passages not only more accessible, but practically *self*-cleaning as well. And we've *eliminated* liquid and dirt-trapping pockets. In the smaller ratings we of course offer our standard design.

Looking for a Good Motor?

SPECIFY "Allis-Chalmers"! For whether your job calls for a large motor like that above, or a small standard machine, you can be sure of getting two things when you specify "Allis-Chalmers:" 1) Exactly the right type and size motor; 2) consistent with the finest quality workmanship of which we are capable.

For the full story of liberal Allis-Chalmers motor construction, call our nearby dealer or sales office. ALLIS-CHALMERS, MILWAUKEE 1, WIS. A 2117

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

FACTS AND FIGURES PROVE RAYCO LINTER COTTON AN IDEAL BASE FOR PAPER

★ Before Railway Supply introduced Rayco Linter Cotton to the paper industry, Rayco engineers carried out extensive Laboratory research and numerous in-the-mill test runs.

The facts obtained proved the following about Rayco Linter Cotton:

1. it is an ideal base material for making fine cotton content paper
2. it is easily adaptable to a variety of processes and types of equipment
3. it is always delivered clean and ready for the cooker operation
4. it speeds production by eliminating rag room operations and reducing cooking time.

We regret that the present fiber shortage makes it impossible for us to supply additional customers now. However, when the situation improves and more linters become available, it will pay you to include the use of high-quality Rayco Linter Cotton in your future furnish plans.

The RAILWAY SUPPLY & MFG. CO. and Affiliates

Specialists in Grading, Marketing and Processing Cotton Fibers

General Offices: Cincinnati, Ohio

Plants and Sales Offices:

Cincinnati, Ohio
Franklin, Ohio
Atlanta, Ga.
Charlotte, N. C.
Covington, Tenn.
Greensboro, N. C.
New York, N. Y.
Chicago, Ill.
Detroit, Mich.

RAYCO LINTER COTTON

PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.
Established 1872

Volume 123 Number 16

Published Every Thursday by Lockwood Trade Journal Co., Inc.

Executive and Editorial Offices:
15 W. 47th St., New York 19, New York

GEO. E. LOCKWOOD, *President & Treasurer*
ARTHUR E. GORDON, *Vice-President*
JOSEPH P. HORGAN, *Secretary*
W. L. COOK, *Editor*
HARRY I. JENSEN, *Assistant Editor*
R. G. MACDONALD, *"TAPPI" Editor*
F. B. GROSSE, *Make-Up Editor*

Eastern Representatives
BRUCE E. BROWN, *15 W. 47 St., New York 19. N. Y.*
EDWARD H. DOERING, *15 W. 47th St., New York 19, N. Y.*

Mid-Western Representative
H. K. VINTON, *123 W. Madison St., Chicago 2, Ill.*

Pacific Coast Representatives
ROY M. MCDONALD & CO.,
San Francisco, 4, Cal., 564 Market St.
Los Angeles, 6, Cal., 1323 Venice Blvd.
Seattle, 1, Wash., 1411 Fourth Ave.

Representative for Denmark, Norway, Sweden and Finland
OXFORD TRADING AKTIEBOLAGET, *Bibliotekgatan 6-8, Stockholm, Sweden.*

Subscriptions: (Payable in advance) By the year $4.00; Single Copy 10 cents.
Postage Extra: To Canada $2.00; To Other Foreign Countries $3.50.

Member Audit Bureau of Circulations.

PAPER *established Feb. 17, 1899, combined with* PAPER TRADE JOURNAL *Nov. 16, 1899,* PAPER *established Sept. 21, 1910, combined with* PAPER TRADE JOURNAL *Feb. 19, 1926. All rights to the above titles reserved.*

PAPER TRADE JOURNAL *is entered as Second Class matter at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. Publication Office at Lockwood Trade Journal Co., Inc., 34 N. Crystal St., East Stroudsburg, Pa. Printed in U. S. A. Copyright 1946 by the Lockwood Trade Journal Company, Inc. The contents of* PAPER TRADE JOURNAL *including all articles, illustrations, etc., are covered by copyright and may not be reprinted except by permission.*

CONTENTS

OCTOBER 17, 1946

Newsprint Goes to $84 Per Ton 7
Time Would Sell Its Mills to St. Regis 7
Hudson Valley Area Expands Operations 8
Utilization Council Discusses Hardwood 11
Brazilian Production Remains at '44 Level 12
Four Mills Join in Pulpwood Program 12
Casein Industry Faces Knotty Problems 18
Brown-Bridge Expansion Progresses on Schedule 20
Obituary 21

Financial News 14
Market Review 36
Imports 35
Editorial 22
Production Report 23
Miscellaneous Markets . 37
Market Quotations ... 37
Classified Advertising . 40

Technical Section *("TAPPI")*

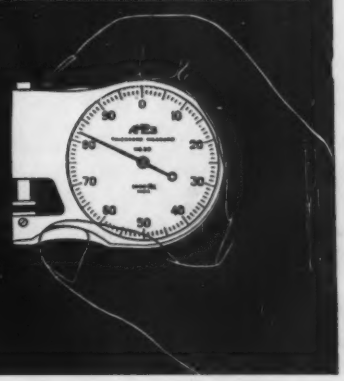
The Color Aptitude Test—1944 Experimental Edition .. 25
Moldability (Crease Retention) of Wrapping Paper 28
Sulphite Pulp Production Records—Their Value, Significance, and Extent 29
Kalamazoo TAPPI Discusses Quality Control 33
Western New York TAPPI Hears Van den Akker 33

PAPER TRADE JOURNAL IS INDEXED IN INDUSTRIAL ARTS INDEX

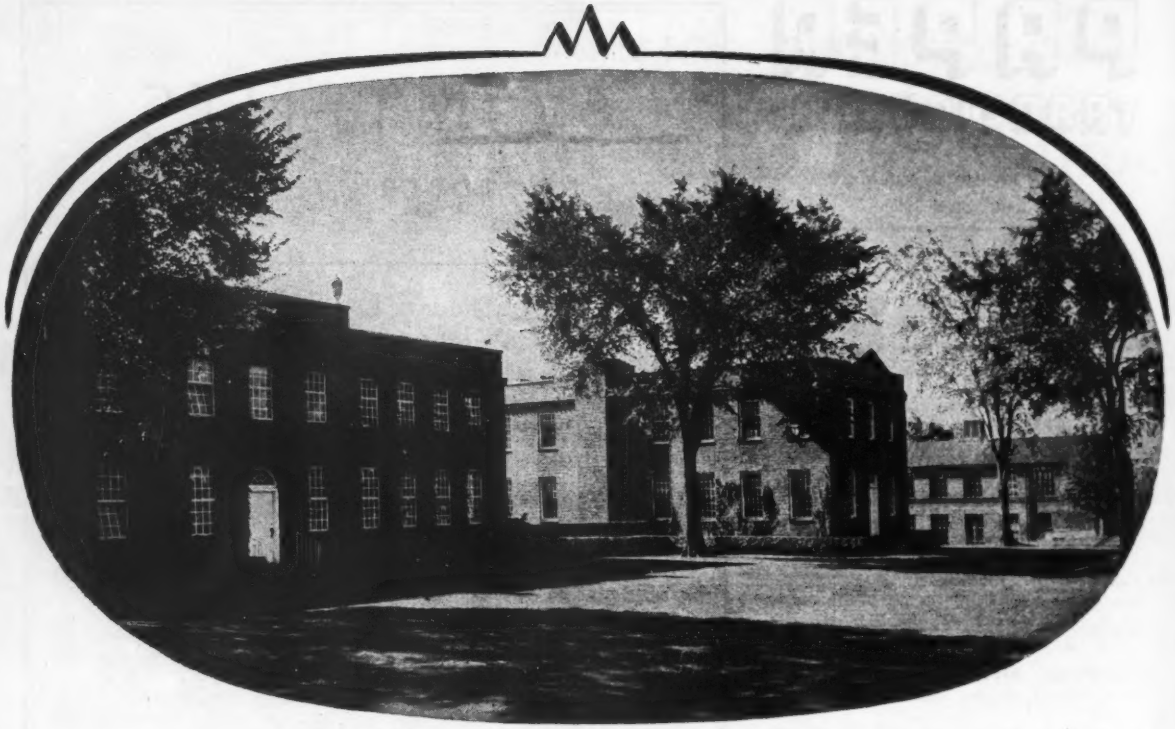
INDEX TO ADVERTISERS ON PAGE 54

AMES THICKNESS MEASURE No. 25

The neatest, lowest priced, most accurate and durable dial pocket gauge made. Its case is only ¼" thick, dial diameter 1⅝", yet measurements up to 5/16" can be made by thousandths with great accuracy. Priced at $12.



B. C. AMES CO., WALTHAM 54, MASSACHUSETTS, U.S.A.



THE VANDERBILT LABORATORY—NORWALK, CONN.

Use the
VANDERBILT LABORATORY

★

Now, more than ever before, it is important to keep production at peak efficiency. Visit our laboratory, bring your problems and let our facilities help you solve them. Here, we can show you how our materials can be used to your best advantage. We invite and appreciate your cooperation.

★

R. T. VANDERBILT CO., INC.

230 Park Avenue, New York City

PAPER TRADE JOURNAL
Vol. 123, No. 16 October 17, 1946
Title Reg. U. S. Pat. Off.

Newsprint Goes to $84 Per Ton As Publishers Ask Decontrol

WASHINGTON — Manufacturers ceiling prices for newsprint sold in the United States were increased $10 per ton over the week-end. The increase, granted by Am. 15 to RMPR 130, was effective Oct. 11.

OPA said also that it had been decided not to decontrol newsprint at the present time as had been recommended by the American Newspaper Publishers Association. Instead, a price increase is being granted to assure that United States publishers will continue to receive maximum possible shipments of newsprint.

OPA is continuing its study of the relation of newsprint prices to business and living costs as a possible basis for decontrol.

The increase is in the price of all newsprint sold for use in the United States, whether made in this country or imported. The new ceiling for standard newsprint paper delivered to 38 "port" cities will be $84 per ton.

Removal of price controls was advocated last week by a group of newspaper publishers at an informal meeting with Paul A. Porter, Price Administrator.

Mr. Porter promised to take the request under consideration and to make a decision at the end of the week, according to an Office of Price Administration spokesman present at the conference. In the interim the OPA would confer with its formal Newsprint Manufacturers Industry Advisory Committee and with Government agencies, particularly the Civilian Production Administration for production and supply data.

The publishers' recommendation was reported to have been based on the ground that "ceilings" were causing a diversion of newsprint to other world markets and diverting manufacturing to other types of paper products.

OPA officials raised the question whether newsprint could be removed from controls by itself, apart from other paper products, wood pulp, pulp wood and even Canadian lumber, and indicated that this point required further study.

Time Would Sell Its Mills to St. Regis

NEW YORK — Negotiations for the sale of paper mills owned by Time, Incorporated, to the St. Regis Paper Company are in progress, it was revealed late last week by officials of the two concerns. The mills are the Bryant Paper Company, at Kalamazoo, Mich., the Hennepin Paper Company, at Little Falls, Minn., and the Maine Seaboard Paper Company, in Buckport, Me.

Time, Inc., purchased these three mills, with an aggregate capacity of approximately 180,000 tons of book paper per year, during 1945 and 1946. During its period of ownership Time, Inc., has inaugurated programs at the mills, both to improve the paper and to increase output.

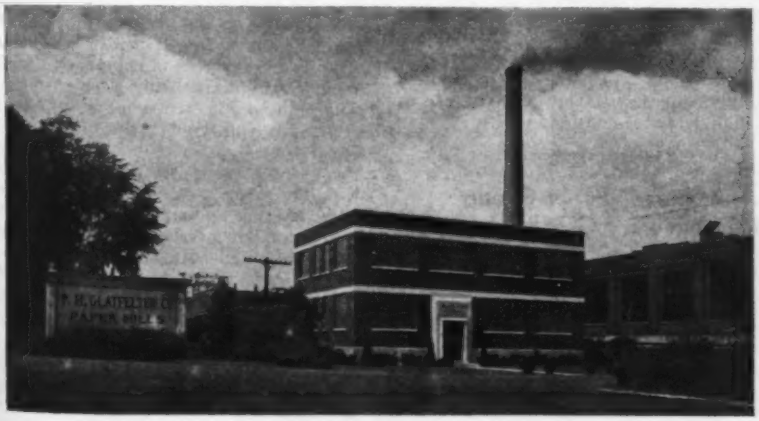
These programs will be carried forward and rounded out under the new management so that they will "add considerably to the supply of book paper in the United States," the statement declares.

At the same time the negotiations for the sale of the three mills are being carried forward, Time, Inc., is negotiating with the St. Regis Paper Company for contracts for a substantial supply of paper. This is in line, officials say, with the publishing company's policy of purchasing so far as is possible, its major requirements of paper from independent mills.

One of the largest producers of paper in the United States, the St. Regis Paper Company has plants in 13 cities in this country, and in Canada, Brazil and Argentina. It has been operating the Hennepin and Maine Seaboard under management contract since January 1 of this year.

Bowaters Advances Penny and Sutton

CORNER BROOK, N. F.—Gerald Penney, general mill superintendent, and V. J. Sutton, technical superintendent of Bowaters Newfoundland Pulp & Paper Mills, Ltd., have been promoted to important positions. Mr. Penney has been made mill manager and Mr. Sutton promoted to be assistant mill manager.



GLATFELTER COMPLETES MODERN LABORATORY

The P. H. Glatfelter Company has completed at its mill in Spring Grove, Pa., a new laboratory for process control work and for research. The building is of the most modern construction and is completely air conditioned. Facilities are provided for general analytical work and raw material testing, as well as special laboratories for water analysis, stream improvement and other problems. A considerable part of the laboratory is devoted to research work. A technical library is an important feature of the building. The staff consists of a technical director, who is a graduate of the Institute of Paper Chemistry, a chemical engineer, four graduate chemists and seven laboratory technicians.

Kimberly-Clark Sets Goal Up 25 Per Cent

NEENAH, Wis. — A full report on Kimberly-Clark Corporation's expansion program—in progress since V-J Day—was unfolded at a week-long general sales meeting just concluded, revealing a greatly expanded production goal for pulp, paper and cellulose wadding, approximately twenty-five percent above immediate postwar output. All sales divisions were present and heard top officials of the corporation speak on "Eighty Years of Kimberly-Clark Production" with the emphasis on six years still to come.

The theme of the 1946 sales meeting was emphasized in opening remarks of welcome by J. R. Kimberly, vice-president in charge of sales, who said that the corporation—while still selling on an allocation basis—was well along in an expansion program of a magnitude not duplicated in the corporation's seventy-four year history. He said that "our purpose this week is to show you local progress first-hand, show you pictorially other segments of the programming and tell you about them, for the assurance you can bring to the Kimberly-Clark customer that we are a production source not only to be depended upon today but increasingly so in the years ahead."

Present conditions affecting Kimberly-Clark were discussed by Ernest Mahler, executive vice-president. He commented that the program of growth and modernization would further readjust corporation manufacturing needs of the day. Mr. Mahler also pointed out to the sales organization that the corporation's new technical center would be formally opened within a month, that it reflected Kimberly-Clark determination to hold technical leadership in the industry and was typical of the type of product support which the sales department could expect.

Mr. Mahler said that he felt salesmanship will never be more important than in the next five years. "Goods well made must be well sold and that means selling the corporation back of the product as well as the product. There is a new era ahead for you and one in which you should have faith."

Specific components in the expansion program, cited by H. G. Boon, vice-president in charge of operations, included the following: (1) The corporation's new subsidiary at Terrace Bay, Ontario, the LongLac Pulp and Paper Company Limited. This project involves a complete townsite and a modern chemical pulp mill planned to produce 300 tons a day of bleached sulphate. The mill is expected to go into production in the latter part of 1948 and is thus far on schedule. (2) A modernization program at the Niagara, Wisconsin mill that represents the corporation's largest expansion in the book paper field in a quarter-century. The foundation is complete but is three months behind schedule, postponing a production increase until early 1948. (3) Work on an addition to the Lakeview Mill at Neenah has been completed but production from a new creped wadding machine will be delayed until the first quarter of next year. (4) The new Memphis Mill, acquired from the government, is being reconverted on schedule; the first of two machines is scheduled to begin operation sometime in the second or third quarter of next year. (5) Work has been completed on a new plant established at Kimberly, Wisconsin, for the development of new products. The audience also heard of the progress of equipment modernization taking place at all mills of the corporation.

The week-long program of outlining what the corporation is planning for the future was designed and planned by C. F. Jenkins, general sales manager.

Parker-Young Sells Mills In New Hampshire Towns

BOSTON — The Parker-Young Company has sold its pulp and paper mills at Lincoln and Livermore Falls, N.H., to the Marcalus Manufacturing Company, Inc., of East Paterson, N. J. Marcalus has agreed to take care of orders for November delivery of paper, heretofore accepted by the Parker-Young Company in full; also to accept orders from Parker-Young customers within certain percentages of their quota limits for December. Thereafter Marcalus will make independent arrangements for distribution of the products of the purchased mills.

The Parker-Young company has retained ownership of public and private village property owned in the town of Lincoln, and expects to operate this property with no immediate change in view. They do, however, plan to retire the outstanding preferred stock as of January 1, 1947, and to conduct limited operations, the exact nature of which is not yet announced.

Meier Heads Paper Group In Community Chest Drive

CHICAGO — The Community Fund Drive which is Chicago's annual effort to raise money for an assorted list of worthy charities and service groups, is now occupying the time of many Chicago paper trade executives in all branches of the industry. Ray C. Meier, treasurer of the Eddy Paper Corporation, has been made chairman of the Paper Group and, at this writing, is busily engaged in lining up group chairmen for all phases of the trade. Approximately eight million dollars are expected to be raised in the Fund Drive which will terminate late in the Fall. Headquarters for the Drive are at 100 W. Monroe Street in downtown Chicago.

Hudson Valley Area Expands Operations

COHOES, N. Y. — Increased operations were noted in many paper mills of the Hudson Valley during the past month and working forces are being enlarged on an extensive scale. Among the firms seeking help are the Capital City Container Corporation, Albany, Warrensburg Pulp & Paper Company, Fort Orange Paper Company, Castleton, Huyck Felt Mills, Rensselaer, Wheeler Paper Corporation, Albany, and others.

An official of the West Virginia Pulp & Paper Co., Mechanicville, stated that the plant has been maintaining a high production of paper despite the rising costs of materials. The company has met all its labor obligations while carrying on such production and recently granted a substantial increase in wages to its several hundred workers following negotiations with labor leaders. The working force is also being enlarged from time to time.

Near-capacity operations are being carried on at the Hudson Falls plant of the Sandy Hill Iron & Brass Works. The firm recently completed the installation of four grinders for the Sao Paulo, Brazil, plant of Industrias Klabin do Parano under the direction of Millard Hayes. Announcement is also made that H. A. Brandt has become associated with the company as procurement engineer. He is a graduate of the Massachusetts Institute of Technology and during the war served in the navy.

Among the firms undergoing expansion are the Albia Box & Paper Company and the Watervliet branch of the Behr-Manning Corporation. The former concern has plans under way for building a new addition which will provide a warehouse and pasting room. The extension is to be erected adjoining the present plant and will provide room for increased production. The new structure is expected to be ready for occupancy within a short time. Extensive improvements have been under way at the Behr-Manning Corp. for some time and are now nearing completion. Increased production is expected to follow on a wide scale. The Morton C. Tuttle Co. are the contractors.

In an address this week, Herbert W. Sullivan, vice-president of the International Brotherhood of Pulp, Sulphite & Paper Mill Workers, briefly reviewed the labor movement citing the beginning of the organization at Fort Edward in 1901, when the workers labored twelve and thirteen hours daily for small wages. In 1903 the drive for an eight-hour day began and the goal was won after a strike of three weeks. He also pointed out the growth of the industry as well as the labor organization in the same length of time.

Northland Confers Degree on Everest

ASHLAND, Wis.—An honorary degree of Doctor of Business Administration was conferred by Northland College Saturday evening, October 5, on D. C. Everest, president and general manager of Marathon Corporation, at a convocation memorializing the college's war dead.

Dr. Manley E. MacDonald, college president, conferred the degree, and F. J. Sensenbrenner, president of the University of Wisconsin board of regents and former chairman of the board of Kimberly-Clark Corporation, presented Mr. Everest.

"It is a real honor to have the privilege of presenting for recognition one who has distinguished himself in industry as a research leader as well as a businessman's executive," Mr. Sensenbrenner said in the citation which accompanied the degree.

"We commend Northland for having developed a democratic ideal that rewards individual initiative. It is a novel and lasting symbol for the college to place its stamp of approval on the one who being cited.

"By sponsoring research, the one we are about to honor has gained wide recognition as a dean of technicians in the pulp and paper industries. His work as a leader in paper research is further evidenced by the part he has played in promoting the growth of such scientific bodies as the Forest Products Laboratory, the Bureau of Standards, and the Institute of Paper Chemistry.

"He, undoubtedly, has contributed much in making Wisconsin one of the leading centers of the great pulp and paper industry. His service to the industry was recognized by his election to the presidency of the American Pulp and Paper Association for several terms.

"Working under a code of ethics that embraces the highest business principles, the one to be honored on this occasion has proved himself a business executive of unusual ability. He has promoted the use of science in business and has built an industry on the foundation stones of honesty and fair business practices.

"His friendly manner and understanding of men make him to be a great leader in the industry he represents. Throughout his years of service as a business executive, he has adhered rigidly to those business principles that build a sound democracy.

"It is therefore with pleasure that I stand sponsor for and present to you for recognition, David Clark Everest."

Ashman Talks to Economics Club

MENASHA, Wis.—Burt E. Ashman of the Institute of Paper Chemistry, Appleton, addressed the members of the Economics Club and Menasha and Neenah last week in the auditorium of the Menasha Public Library. His topic was "Inside the Paper Institute."

D. C. EVEREST

Honored With Northland Degree

Kimberly-Clark Wins Fritz Safety Award

NEENAH, Wis.—The highest safety award for 1945-46 in the pulp and paper industry has been won by the Niagara, Wis., mill of Kimberly-Clark Corporation. It is the Edward Benton Fritz Memorial trophy, and it was presented in Chicago at the scene of the annual congress sponsored by the National Safety Council.

The memorial trophy, received by R. J. Wells, mill manager, on behalf of all employes, is made on the basis of safety performance. A total of 228 mills in the United States and Canada took part in the contest.

Two other Kimberly-Clark mills, Lakeview at Neenah and the Kimberly mill, starred in National Safety Congress honors in the rate of accident reduction. Lakeview placed second in this category, and Kimberly was third.

Neenah-Menasha Unions Plan For Tri-State Convention

MENASHA, Wis. — Neenah and Menasha papermaker and pulp sulphite unions made plans and named committees on October 6 for the tri-state district council convention of the paper and pulp unions. The Neenah-Menasha groups met at the Trades and Labor hall here. The convention will be held December 7 and 8 at Hotel Menasha. John Heigl and Edward Christensen were named co-chairmen for the convention.

A dance and banquet at Germania hall will conclude the convention on December 8. These two events will be open to the public.

Ontario Pulp Men Look To Britain

TORONTO, Ont.—The announcement by Sir Walter Layton, chairman of the rationing committee of the Newsprint Supply Co. of Great Britain, that newsprint imports to Great Britain from Canada during 1947 would be increased three fold, is taken by Ontario manufacturers to indicate that there may have to be some shuffling of orders to accommodate as much of the business offered as possible and at the same time prepare the way for an increase in business in the future.

If Canadian newsprint manufacturers are to send more paper to Great Britain next year than they have been sending since the war made a curtailment in the use of paper necessary, some of their other customers will have to be content with less paper than they have been getting recently—unless the new mills being constructed and refitted can get into immediate production.

The amount of Canadian newsprint going into the British market is determined largely by the amount of Canadian funds which the U. K. Government is prepared to release for payment of this commodity. Sir Walter said more paper would be needed now since publishers have been permitted to increase both the size and circulation of their newspapers. They are permitted 50% more circulation than in 1938 and the size allowed will be an increase from four pages daily to alternate issues of four and six pages.

Contracts between Canadian mills and U. K. publishers are long-term contracts, running for from five to ten years or even longer periods and many of them are still in force. British customers were unable to take their full commitments under contract during the war, and so Canadian manufacturers sold some of their production to other countries. Now that Britain is going to need more paper and the Government is ready to release the necessary dollars to pay for it, some of these contracts will have to be resumed where they left off and, consequently, some Canadian newsprint manufacturers find that they are oversold. Since the British contracts have precedence, other customers will likely be cut back on a pro rata basis.

Sir Walter intimated that by 1950 Great Britain would take 450,000 long tons. That indicates that if Canada is to supply this paper, shipments to other customers will have to be cut back some more.

However, before the war the bulk of Anglo-Newfoundland Development Company's production went to Great Britain. It is possible that this company and Newfoundland Pulp & Paper Mills will be in a position to supply much of Britain's needs. It was recently announced that Bowaters is planning to increase its capacity by 90,000 tons annually, which will bring total annual production up to 300,000 tons.

Paper Meet Studies Safety Problems

CHICAGO — The 34th Annual National Safety Congress and Exposition held at the Stevens Hotel, October 7 to 11 inclusive, attracted a large number of paper trade executives interested primarily in the safety programs of the various paper and pulp mills of the country. The paper and pulp section program was under the direction of General Chairman L. R. Simpson of the Brown Paper Mills Company, Inc., of Monroe, La.; Vice-chairman E. A. Page, Kimberly-Clark Corporation, and Program Chairman H. P. Huebner, the Flintkote Company, of New York City. The Division, organized in 1915, concentrated its program on two days, October 7 and 8, with afternoon sessions. On October 7, L. R. Simpson, chairman, gave his progress report after which Walter A. Cutter, of New York University, spoke on "Is Safety Your Business?" During the afternoon session the final report of the 1945-46 Paper Industry Safety Contest was made and National Safety Council and Edward Benton Fritz Memorial trophies were presented by John E. Long, Delaware & Hudson Railroad Corporation, and by Mrs. Edward Benton Fritz of the Fritz Publications, Inc.

On the afternoon of October 8 a joint session was held with the Pulpwood Loggers Group, the Paper and Pulp Section, and the Wood Products Section combining under the direction of J. E. Cantin, Quebec North Shore Paper Company of Canada. Arthur Nelson, chief forester of the Flintkote Company, discussed "Fire Control in Pulpwood Logging Operations" and Dr. D. C. Eisel, Kimberly-Clark Corporation, provided an interesting paper on "First Aid in the Woods."

Speakers on the Wood Products Section program included R. F. Caldwell, Frost Lumber Industries; Robert McA. Keown, Industrial Commission of Wisconsin; and E. E. Jones, Surty Manufacturing Company of Chicago.

Representatives of the Pulp and Paper Section likewise attended many meetings dealing with the subject of general accident prevention in what was reported as the outstanding Congress yet held by the Council.

Fogelstrom Joins Brown-Bridge

TROY, Ohio — Theodore W. Fogelstrom has joined Brown-Bridge Mills, Inc. Mr. Fogelstrom, better known as "Fogie" to his hundreds of friends in the paper industry, comes to Brown-Bridge with a rich background of experience. For the past twenty years Mr. Fogelstrom was a special representative for the Mid-States Gummed Paper Company, during which he played an important part in the introduction and promotion of various products. His knowledge of gummed papers and tapes and their use is extensive. Mr. Fogelstrom will make his headquarters in the Chicago office of Brown-Bridge at 608 S. Dearborn Street.

Inland Press Group Meets in Chicago

CHICAGO — The Inland Daily Press Association, with a membership comprising important daily newspapers in the midwest, held its Fall meeting on October 14 and 15 at the Congress Hotel with a generous amount of time slated to be given for a discussion of the newsprint situation. F. D. Schurz, Inland's newsprint chairman and business manager of the South Bend, Ind., Tribune, led a newsprint forum on Tuesday, with Benton R. Cancell, vice-president of the Powell River Company of Vancouver and War-Time director of the War Production Board's Forest Products Bureau, and Cranston Williams, general manager of the American Newspaper Publishers Association, participating.

Holyoke Wire Strike Is Four Weeks Old

HOLYOKE, Mass.—While picketing on an accelerated scale continued today, employes of the strike-bound Holyoke Wire and Cable Co., which services many of the city's leading paper plants, neared the end of the third week in their walkout in a battle for wage increases and other considerations.

Since the outbreak of the strike, only one conference has been held between management and labor, when the company countered union demands for an 18½-cent-an-hour raise with an offer of a five-cent hourly boost.

Company officials, according to Union Organizer Arthur Houle, have withdrawn certain concessions made during pre-strike negotiations, including establishment of a union shop, an eight-hour day and the check-off plan.

Stillman Talks On Office Management

WORCESTER, Mass.—Harold D. Stillman, office manager of the Gum-Coated Paper Company, Nashua, N. H., spoke on "Office Management Responsibility" at the first meeting of a new lecture series sponsored by Worcester Chapter, National Office Management Association, in the conference room of the Worcester Telegram and the Evening Gazette.

Forty attended and George E. Sund, lecture series chairman, presided. The lecture was followed by a discussion period on various phases of office management in connection with other departments of an industry.

Charles E. Butler, office manager of Norton Company, will speak on "Organization of an Office Force and Establishment of Procedures" at the next meeting of the lecture series Oct. 23, also in the conference room.

Forest Chief Argues For Public Control

WASHINGTON—Lyle F. Watts, chief of the Forest Service, told the American Forest Congress at the opening session of a three-day meeting in the auditorium of the U. S. Chamber of Commerce that in a recent resource appraisal report the American Forestry Association appeared prepared to advocate placing public ownership of national forests and other public lands on a "custodial" basis rather than under stable public ownership and management as at present.

"Those Americans who value the principal of permanent forest conservation and stable State forestry," he said, "should be shocked at the proposal."

The chief forester said that he took the proposal to mean that the people would acquire and rehabilitate depleted forests at public expense and, when demand was strong and prices high, turn them back to private ownership. He quoted the association's appraisal report as preferring State forest "custody" to Federal because it was easier to get the forests from State custodians.

A committee proposal for "a thorough-going study of Federal public-land policies and administration—with a view to the adoption of a comprehensive policy covering the policy, reservation, acquisition, and administration of urban Federal lands," was called by the chief forester an "impossible committee task." He wondered if this particular proposal would not mean a holiday from needed forest acquisition by the public and demanded to know "When are we going to get down to brass tacks and put into public ownership, and start acceptable forest management on that forest acreage where experience keeps on shouting to us that public ownership of the forests is needed."

The chief forester said that the nation's forestry situation was bad, that the main key to improvement was better handling of private forest land, and proposed as a principal remedy a basic Federal charter which would give every reasonable opportunity for States to enact and, with Federal financial assistance, administer regulation under State law consistent with Federal standards, but would provide for Federal administration in States which fail to do so.

H. K. Porter Appoints Hays

TULSA, Okla.—George A. Hays has been appointed vice-president and general manager of the Hinderliter Tool Company, a division of H. K. Porter Company, Inc., following the retirement of Frank J. Hinderliter who founded the company in 1920.

Utilization Council Discusses Hardwood

SYRACUSE, N. Y.—The increasing use of hardwoods for pulping was emphasized at the quarterly meeting of the Northeastern Wood Utilization Council held last week in cooperation with the New York State College of Forestry.

America has been drawing heavily on her softwood capital, according to Dr. L. K. Harper, Director of the Northeastern Forest Experiment Station. Thus, this country does not have enough softwoods to satisfy its pulpwood needs. In contrast, hardwoods have been growing at a rate faster than their depletion, constituting a desirable raw material.

Prof. Edwin Jahn of the Forestry College, fresh from a Scandinavian survey reported on recent developments there. A furfural plant using hardwood has been in operation there for many years while a plant using ammonia pulping has been in commercial operation for over a decade, Prof. Jahn declared.

Dr. Edward Farber, Chief Chemist of the Timber Engineering Company reported on German work on hardwood pulping where several hundred tons of both paper and rayon pulps were made daily from hardwoods. A process which his company is developing will make structural papers from slabs, edgings and mill waste.

M. W. Phelps from the Solvay Process Company gave the operating characteristics of semi-chemical pulping plants which can produce hardwood pulp competitively with other processes. The process is especially suited for glassine, waxed and book papers.

G. H. Chidester and J. N. McGovern of the U. S. Forest Products Laboratory related some of the problems connected with hardwood pulping and Prof. C. E. Libby of the New York State College of Forestry reported on the research now being carried out at the college for the pulping and mechanical grinding of hardwoods. The Empire State Research Associates composed of mills in the Northeast are sponsoring this research.

Dr. Robert S. Aries, Director of Northeastern Wood Utilization Council reported on recent developments in sulphite waste liquor utilization. The Council is developing the large fertilizer outlets for calcium lignosulphonate and the production of yeast from the sugar fraction of the liquors, while most other processes disregard one or the other. The markets for both of these products can absorb the production of the mills which can recover it practically, while stream pollution is reduced substantially, Dr. Aries declared.

The meeting was enlivened with reports on current operations and research on hardwood pulping practiced in the American and Canadian mills whose representatives attended the conference.

The next invitation meeting of the Council will be in Boston, on December 12th in which the subject of charcoal production will be discussed. Details may be obtained from Mr. E. L. Heermance, Secretary, New Haven 6, Conn.

TAPPI VISITS ALLIS-CHALMERS IN MILWAUKEE

Approximately 120 delegates to the power conference of the Technical Association of Pulp and Paper Industry in Milwaukee visited the West Allis plant of the Allis-Chalmers Manufacturing Company, on October 4. Delegates evidenced particular interest in a new high density feeder being operated in the company's research building in connection with an Allis-Chalmers' solids-handling pump. Numerous other products, many of which were directly or indirectly related to paper mill equipment requirements, captured the delegates' attention on their tour of the company's machine, forge, tank and plate shops. These included coolers, vibrating screens, kiln parts, a Stream-barker, saw mill equipment, including a 54-inch band mill, pumps, transformers and condenser shells, electric motors, generators and control equipment.

Package Machinery Makers Elect von Hofe President

SHAWNEE-ON-DELAWARE, Pa.—George W. von Hofe, President, New Jersey Machine Corporation, Hoboken, was elected President of the Packaging Machinery Manufacturers Institute, at the fourteenth annual meeting of the Institute, at Shawnee Country Club, Shawnee-on-Delaware, Pa. Vice-presidents elected were Boyd H. Redner, General Manager, Battle Creek Bread Wrapping Machine Company, Battle Creek, Mich., and Oscar W. Wikstrom, President, United States Automatic Box Machinery Company, Boston.

Mr. von Hofe succeeds Frank B. Fairbanks, President, Horix Manufacturing Company, Pittsburgh, Pa., who has served as the Institute's President for two years.

Council to Discuss Distillation

BOSTON — The Northeastern Wood Utilization Council will discuss wood distillation during its next invitation meeting to be held in the Parker House, on December 12th.

Fox River's Football Schedules In High Midwest Demand

CHICAGO — The Fox River Paper Corporation of Appleton, Wisconsin, is getting a big play from Chicago sports fans with its concise 1946 football schedule being distributed locally by Bermingham & Prosser, Chicago paper merchants. The schedule is attractively printed in brown and white on Brilliant White Anniversary Bond of 100 per cent cotton fibre. The paper's crispness, strength and opacity is properly headlined in copy on the back side of the schedule which carries the headline "Goalward Bound with Fox River Bonds, Ledgers and Thins." The folded booklet contains schedules not only of the various important college teams of the country but of both Chicago professional football teams and other pro teams in the United States.

Truckmen's Strike Dams Paper In Holyoke Shipping Rooms

HOLYOKE, Mass. — Holyoke's paper mills' shipping rooms are bulging with unshipped products, and there is no prospect that the situation will ease in the near future, manufacturers said today. The truck strike in New York has created a serious backlog of merchandise made and prepared for shipment to New York. Manufacturers estimated that more than 100 carloads of finished goods are piled up in shipping rooms and on platforms waiting shipment. They said their storage conditions are almost hopelessly tangled.

Brazilian Production Remains at '44 Level

WASHINGTON, D. C.—Approximately 67 per cent of the entire Brazilian output of paper in 1945 was produced in the Sao Paulo district, according to a report to the Department of Commerce. Total production in the State of Sao Paulo amounted to 124,587 short tons in 1945, compared with 124,634 tons in 1944. In spite of the prosperous condition of the paper industry in Sao Paulo, 1945 production remained on about the same level as in 1944, chiefly on account of labor troubles. All production of paper in 1945 in Sao Paulo was consumed within Brazil.

There is keen interest in the expansion of paper manufacturing in Sao Paulo, since demand far outstrips supply. Two new factories recently began the production of paper and a third new concern expects to begin production in the very near future. In addition, a manufacturer of container board plans shortly to enter the field of paper production.

In view of the pressure of demand, manufacturers of paper and products are striving for quantity rather than quality. With chemical woodpulp again available from Sweden, Norway, and Finland, some manufacturers have improved quality. In spite of the general lack of quality, however, prices of paper were recently reported high.

Industrias Klabin do Parana de Celulose S/A, an important pulp and paper manufacturing concern, has not yet begun to produce newsprint paper, and can give no definite date as to when production will begin. From all indications, this factory will not be producing newsprint paper within the next year and it will be necessary for imports of newsprint paper to continue not only at the same level but at an even higher level, since newspapers are compelled to limit their sizes to the amount of paper available.

Col. Kelley Gets Post At Top of W.A.A.

PITTSFIELD, Mass.—Col. William A. Kelley, former E. D. Jones & Sons Company sales engineer has been appointed special assistant to Clinton F. Robinson, vice-administrator of the War Assets Administration.

Col. Kelley, who was at the Jones plant from August, 1935, to January, 1942, recently was awarded the Legion of Merit at Washington for his work in cataloging and classifying Signal Corps equipment and supplies as commanding officer of the stock numbering agency, Office of the Chief Signal Corps officer at Philadelphia. He served there from Oct. 25, 1943, to March 26, 1945. Later he was commanding officer of the Lexington, Ky., signal depot.

Before he reported for active duty with the army, Col. Kelley was with the War Prduction Board. He reported directly to Donald Nelson, organized seven divisions in the agency, and served as assistant director of the Facilities Division, which he also organized.

He is the inventor of several electrical and paper industry machines. Included are a super-calender drive, a paper machine drive and an automatic beater.

Berkshire Truck Union Returns After Nine-Weeks Strike

PITTSFIELD, Mass.—More than 150 Berkshire County members of local 294, International Teamsters and Truckers union have returned to work after a nine week strike which has tied up shipping from paper mills in this area.

They will get a 19-cent-an-hour raise, bringing their pay rates up to $1.10 an hour for a 45-hour week. They asked for a $1.25 an hour for a 40-hour week, later reducing it to $1.15.

End of the wage dispute came at a meeting when representatives of the Highway Transportation Association voted to accept a union proposal. The compromise agreement was worked out after several weeks of negotiating. Association counter offers were set at $1.10 for a 45-hour work week and union members voted, 338 to 33 to accept.

Approximately one thousand other union members, employed by firms with whom new contracts previously had been signed, continued at work throughout the strike.

Weaver Finds His Work Promotes His Health

WISCONSIN RAPIDS, Wis.—Fellow-workers at the Biron, Wis., mill of the Consolidated Water Power and Paper Company recently honored Horace Weaver, machine tender, on his seventy-fourth birthday. He has been employed in the paper industry since he was 17, or a total of 57 years. He began work with the Susquehanna River Paper Company in the fall of 1889 and has been with Consolidated since May 9, 1902. During his long career, he has never lost a day, been late only twice, and says he has never consulted a doctor in his life.

Holyoke Unions Mobilize To Defeat Barnes Bill

HOLYOKE, Mass.—Holyoke's paper mill unions are mobilizing to defeat a referendum that will appear on the ballot in November, commonly known as the Barnes Bill. This referendum requires that labor organizations file financial reports with the Department of Labor and Industry at the close of the fiscal year.

Andrew Beaton and John Dupre, paper industry union representatives, are serving on a committee designed to get out literature and campaign against the bill.

Four Mills Join In Pulpwood Program

COLUMBIA, S. C.—The Clemson College Extension Service and the State Forestry Commission have just announced the second annual five-acre pulpwood thinning contest for South Carolina.

A state prize of $250, with three district prizes of $125 in the forestry department's three districts, and county prizes of $25, $10 and $5 are being offered by co-operating firms.

They are the International Paper Company, the West Virginia Pulp & Paper Company, the Champion Paper & Fiber Company and the Union Bag & Paper Company, mills that draw on South Carolina's timber.

"The contest will be patterned closely on the 1945-46 contest which was very effective and successful," the forestry department said, "in stimulating interest among farmers in cutting pulpwood on their own lands with their own labor during the fall and winter months in conformity with sound forestry principles."

Contestants must own or live on the farm, mark the trees to be cut from the five-acre plot, cut or supervise the cutting, and keep a record of the work done. The contest closes next February 28.

Purple Heart Confers Award on Celanese

NEW YORK—For its work in the rehabilitation and retraining of handicapped GI employes, Celanese Corporation of America has received a national citation from the Military Order of the Purple Heart. The presentation was accepted on behalf of Celanese by Fred T. Small, vice-president and plant manager at Cumberland, Md., after the national executive body of the Order voted unanimously to award the citation to Celanese. The Ford Motor Company is the only other large industrial firm in the nation to receive such an award from national headquarters.

New Adhesive is Offered by du Pont

WILMINGTON, Del.—A new industrial adhesive that is said to require no catalyst or special preparation for use was reported recently by G. E. Conde, Director of Research, Parlin, N. J., Finishes Laboratory, E. I. du Pont de Nemours & Company. No. 4665 cement is described as being tough and flexible, suitable for bonding metal foils and metal sheets to wood, plastics, vulcanized synthetic and natural rubbers, as well as other substances having widely different coefficients of thermal expansion.

WANTED

BY LARGE MIDWESTERN MAGAZINE PUBLISHER:

100 TONS OF PAPER MONTHLY

One of America's largest and most respected publishing houses needs 100 tons per month of Super-Calendered or English Finish stock in the following size:

58½"—43# stock

Also needed are 80 tons per month of Roto paper in the following size:

78" rolls—42# stock

Present suppliers (who know of this advertisement) are unable to provide this needed additional tonnage. In order to present our requirements quickly to as many paper producers as possible, we are taking this unique step of advertising our needs to the paper industry at large.

We will gladly consider a long term contract or purchase paper in smaller amounts.

We invite all reputable houses to contact us at once.

Address Box 46-718 Paper Trade Journal
15 W. 47th St., New York 7, N. Y.

Suit Is Filed Against Norwood Filtration

NORTHAMPTON, Mass. — A $50,000 bill in equity has been filed in superior court against the Norwood Filtration Company by the assignee for the Norwood Engineering Company, manufacturers of paper-making machinery.

The bill in equity is brought by James M. Smith of Worcester, who was given a general assignment for the benefit of the creditors of the Norwood Engineering Company on May 22, 1946. The action seeks to bring about an accounting of all contracts between the two companies and to force the defendant company to pay amounts allegedly due to the engineering company, which made certain machinery for the Filtration company and was paid "much less than the fair value," resulting in allegedly excess profit to the Filtration company.

In the plaintiff's declaration, Smith pointed out that all assets and claims of the Engineering company were conveyed to him, and he is permitted to prosecute all claims in favor of the company.

He stated that, on investigation, he found the directors of the Norwood Engineering Company and the Norwood Filtration Company to be the same; and that the Filtration company procured the Engineering company to manufacture certain machinery and equipment, which it was obliged by law to pay for in fair value. An examination of the books, he continued, disclosed that the Engineering company was paid less than the fair value for the machinery and equipment, with the result that the Filtration company "received benefits in excess of those to which it was lawfully entitled."

Puget Sound Earnings Rise in Third Quarter

BELLINGHAM, Wash.—Puget Sound Pulp & Timber Company will show continued earnings improvement in its third-quarter report. Profit for the three months ended September 30 was considerably better than in the second quarter, when net was $253,530 or 72 cents a common share. This would bring net for nine months to more than $600,000, or $1.68 on the common, against $519,679, or $1.43 a share, for the 1945 period. Results from operations will show an even sharper gain as $193,094 of net for the 1945 period was a non-recurring capital gain from sale of Canadian timber properties. Income taxes and depreciation also are lower this year.

Champion Income Rises In First Fiscal Quarter

HAMILTON, Ohio—Champion Paper and Fibre Company and subsidiaries report net income of $1,491,534 for the first quarter of the current fiscal year, the 16 weeks ended August 18. Earnings are after provision of $993,955 for Federal and state income taxes and are equal to $2.46 a share on common after preferred dividends. Earnings compared with $705,224, or 85 cents a common share, in the first quarter of last year, when tax provisions amounted to $1,092,925.

Brown Refunds RFC Loan

BERLIN, N. H. — Brown Company, manufacturer of paper, pulp, and allied products, has refunded its indebtedness to Reconstruction Finance Corporation by means of a new first mortgage loan on more favorable terms placed with New England banks and insurance companies. F. G. Coburn, president, stated that the new loan would also provide funds for completion of the plant improvement program now underway. The refunding was made possible by the recent action of the stockholders in continuing the Voting Trust Agreement for an additional five years.

Schmon Talks Facts to Chicago Tribune Newsdealers

CHICAGO—Arthur A. Schmon, president of the Ontario Paper Company, last week explained to more than four hundred Chicago Tribune news dealers at the Continental Hotel some of the difficulties in the current newsprint picture. He outlined how the two Canadian paper mills owned and operated by the Chicago newspaper sufficiently overcame these difficulties to produce enough newsprint to "cover a two lane highway from San Francisco to New York every day of the year." Mr. Schmon also outlined the recent accomplishments in the mills in speeding up production during the world-wide paper famine. The business manager of the Tribune, Elbert Antrim, pointed out to his audience that the Tribune and the New York Daily News have their own mills but likewise need in addition a volume of newsprint that "exceeds the consumption of any paper in the United States."

Paperboard Association Meets In New York November 7

NEW YORK—The annual meeting of the National Paperboard Association, Inc., will be held November 7 and 8 at the Waldorf-Astoria. After luncheon on the opening day a membership meeting will be held; a meeting of the new board of directors will follow. Another membership meeting, to be followed by luncheon, will be held on the next morning. Officers are to be elected.

FINANCIAL RECORD OF THE WEEK

New York Stock Exchange

High, Low and Last for Week Ending October 12, 1946

STOCKS

	High	Low	Last
A. P. W.	5¼	4⅝	5
Armstrong Cork Co.	46½	43	44½
Celotex Corp.	28¼	24⅝	28⅛
Celotex Corp., pf.	20⅝	20½	20½
Certain-Teed Products Corp.	17½	15½	17¼
Certain-Teed Products Corp., pf.	....	....	....
Champion Paper & Fibre Co.	49⅞	44½	45
Champion Paper & Fibre Co., pf.	111	107	110
Congoleum Nairn Co.	27¾	25⅝	26
Container Corp. of America	40¾	37½	40½
Continental-Diamond Fibre Co.	9½	8⅝	9
Crown-Zellerbach Co.	28½	25	28½
Crown-Zellerbach Co., pf.	107	105	105
Dixie Cup Co.	34	31¾	32¾
Dixie Cup Co.—A	54	52½	52½
Flintkote Co.	28¾	25⅝	28⅝
Flintkote Co., pf.	....	....	....
Robert Gair	7⅝	7	7½
Robert Gair, pf.	19⅛	18⅞	18⅞
International Paper Co.	43⅛	39¾	42¾
International Paper Co., pf.	97⅝	95¾	96½
Johns-Manville Corp.	126½	118	126½
Johns-Manville Corp., pf.	120	117¼	120
Kimberly-Clark Corp.	25½	24¾	25
Mac Andrews & Forbes	34	32	32
Mac Andrews & Forbes, pf.	....	....	....
Masonite Corp.	54½	48½	50
Mead Corp.	21⅞	19	20½
Mead Corp., pf. 4¼	106	105⅛	106
Mead Corp., pf. 2	48	46½	46½
National Container Corp.	30	25⅛	30
Paraffine Companies, Inc.	63	61	61
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	19	17¼	18½
Rayonier, Inc., pf.	34½	33	34½
Ruberoid Co.	46	43¼	45½
Scott Paper Co.	45½	42	43⅛
Scott Paper Co., pf.	102½	101½	102½
Sutherland Paper Co.	41¾	39	39
Union Bag & Paper Corp.	28¼	26	27½
United Paperboard Co.	11	9¾	9¾
U. S. Gypsum Co.	111	105	105¾
U. S. Gypsum Co., pf.	197	196	197
West Virginia Pulp & Paper Co.	41	38	39¾
West Virginia Pulp & Paper Co., pf.	....	....	....

BONDS

Abitibi Pulp & Paper Co. 5s '53	....	....	....
Celotex Corp. 3¼s '60	103¾	103¾	103¾
Certain-Teed Products Corp. 5½s '53	....	....	....
Champion Paper & Fibre Co. 3s '65	102¾	102½	102⅝
International Paper Co. 5s '47	....	....	....
Mead Corp. 3s '66	103⅜	103½	103⅜

New York Curb Exchange

High, Low and Last for Week Ending October 12, 1946

STOCKS

	High	Low	Last
Great Northern Paper Co.	41¾	39	41½
Hummel-Ross Fibre Corp.	16¼	14¼	16
St. Regis Paper Co.	9½	8¼	9½
Taggart Corp.	7⅜	6¾	7

BONDS

American Writing Paper Co. 6s '61	....	....	....

WOODPULP AGENTS
PAPER EXPORTERS

ELOF HANSSON, INC.

NEW YORK

220 EAST 42ND STREET

OFFICES:
Gothenburg, London, Sao Paulo,
Buenos Aires, Rio de Janeiro

Kaukauna To Build New Power Plant

KAUKAUNA, Wis.—The City of Kaukauna last week entered into contract with the Green Bay and Mississippi Canal Company to build a hydroelectric plant at the site of the old Little Chute Pulp Company, at an estimated cost of three-quarters of a million dollars. The money will be provided by the Kaukauna Utility from funds on hand, and a bond issue will be floated.

The city has entered into a contract with Thilmany Pulp and Paper Company for power. It is generally a renewal of an old contract, and gives assurance of a big customer when the plant is in operation. The new plant, according to the contract, will increase the sales to Thilmany about 25 per cent. Thilmany has power generating equipment of its own, and is able to take over from the power standpoint within 30 minutes after the usual source of its power, the utility, might be shut down.

However, from the point of operation, Thilmany apparently does not wish to operate its own plant, since the cost would be about the same as when purchasing power and since it prefers to invest money a plant of its own would cost in machinery to make paper and to convert it. Its contract for the purchase of power gave substantial backing to the proposed Utility building project.

The Little Chute dam is the last site available in this section for a hydro plant, and it is believed that from this time on, increase in power production can be realized only through modernization or improvement of plants in this part of the Fox River Valley. The plant will be constructed by the Kaukauna Electric and Water departments.

Kaukauna's generating capacity will be increased as a result of building the new plant. Need for power exists at present, H. F. Weckwerth, head of the city utilities, told the common council. He said the plants are unable at present to meet in full the increases which have been asked by large users.

The proposed plant will be of 5,000 horsepower capacity, rated at 3,300 kilowatts.

The Public Service Commission of Wisconsin still must pass on the project and will be asked to issue a certificate of convenience and necessity. If the certificate is forthcoming, design of the plant will be completed, and the city will ask for bids for construction of the building.

The plant will house three hydroelectric units, and will generate approximately 20,000,000 kilowatt hours per year. It will be operated by remote control for the most part from the Kaukauna plant.

The term of the contract with the Canal company will be until January 1, 1963. The city will operate the plant until this time, but options are included in the contract for its renewal.

THE PULP AND PAPER INDUSTRY WELCOMES GOVERNMENT

Field Marshal the Rt. Hon. Viscount Alexander of Tunis, Governor General of Canada, with Lady Alexander, inspects the Pacific Mills at Ocean Falls, B. C.

Supervisors Hear Report From Foremen's Meeting

NEENAH, Wis.—Plans for its training program and reports from delegates to the national foremen's conference in St. Louis were on the program of the Lakeview Supervisors' Club at its meeting last week at the Valley Inn.

Among the speakers who will highlight the training program for the 1946-47 season are Richard Neller, assistant to Ernst Mahler, who will speak on organization at the initial meeting; Arthur Mathian, circuit relations instructor for the Wisconsin State Board of Vocational Education, who will discuss conducting a meeting; William Fieweger, assistant staff superintendent of production standards, who will discuss fundamental economics and labor productivity; R. M. Billings, staff technical department, who will tell about the proposed course of technical studies in pulp and paper processes; and Norman Moe, Kimberly-Clark industrial relations department, who will discuss labor-management relations.

Roberts Addresses Lions

APPLETON, Wis.—William Roberts of the Fox River Paper Corporation addressed the Appleton Lions Club last week at the Conway hotel, tracing the development of rag paper from early times up to the present. He said that better papers and new uses for fine papers are the aim of the industry. Referring to his own company, he said:

"The Fox River Paper Corporation is the largest producer of cotton fiber papers in the country and is the largest taxpayer in the community. It is now engaged in an extensive mill improvement plan and has increased its technical staff over three hundred per cent in the last five years."

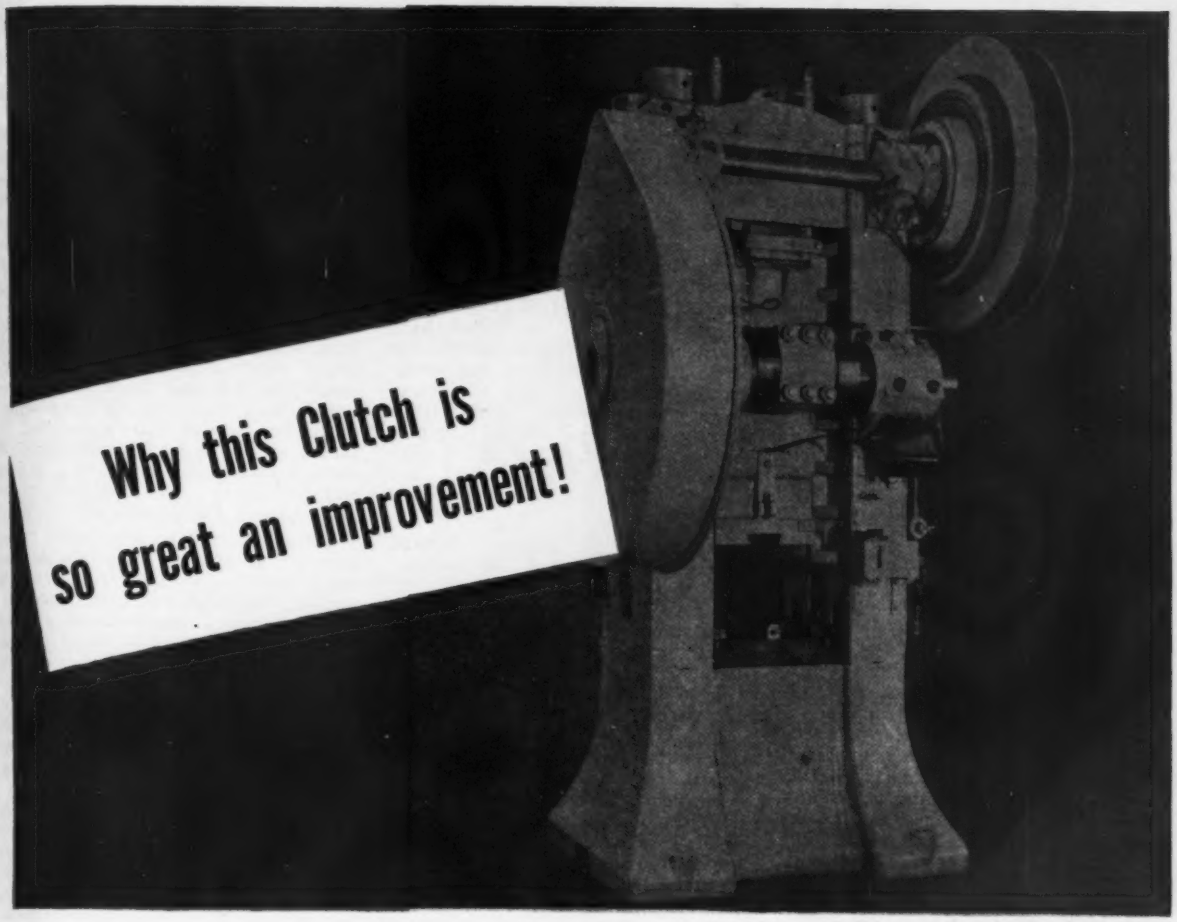
Kaukauna Celebrates Return of Its Men

KAUKAUNA, Wis.—The Thilmany Pulp and Paper Company will shut down from Saturday noon, October 19, to 7 o'clock Monday morning, October 21, to enable employes to take part in the Kaukauna Welcome Home celebration for World War II veterans.

The holiday will start with a parade at 2 o'clock Saturday afternoon, with floats and a number of bands. Other ceremonies and entertainment will follow. The city has underwritten the celebration to the extent of $2,000, and donations have been made by various industries and business places.

Lawson Names Heinsohn Rocky Mountain Distributors

NEW YORK — David W. Schulkind, President of E. P. Lawson Company, has appointed A. E. Heinsohn, Printing Machinery & Supplies, of Denver as distributors in the Rocky Mountain territory of the new Lawson line of paper cutters, multiple head drill slotters, and multiple head round hole drilling machines. The Heinsohn company, in business 36 years, has grown from a one-man company to the point where 26 people are now employed.



Knuckle Press with Fawick Clutch Element on Service Clutch

All clutches cost money to buy, but the Fawick Airflex Clutch costs a great deal less than others to operate and to maintain.

It works on the same principle as your tires, which are both clutch and cushion between the car and the road.

Inflate the Fawick Clutch and it engages—deflate and it releases—you control the air pressure to suit operating conditions.

A constant cushion of air protects both prime mover and driven unit, by absorbing shock and vibration.

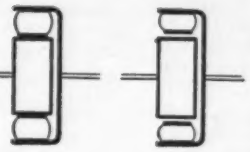
There are no springs, arms or levers to wear or break, no adjustments needed, no lubrication required.

Acts as clutch, slip-clutch, brake, coupling or power take-off—in thousands of heavy service installations.

Write us for engineered recommendations—to fit your equipment.

FAWICK AIRFLEX COMPANY, INC.
9919 Clinton Road • Cleveland 11, Ohio

In Canada, Reynold-Coventry Ltd., Montreal, Toronto, Vancouver
In Britain, Crofts Engineering, Ltd., Bradford, England



How the FAWICK AIRFLEX CLUTCH Works

Compressed air expands the rubber - and - fabric gland to engage clutch with any degree of "grip" you want. Release the air and clutch disengages.

FAWICK
Air flex
CLUTCH

Casein Industry Faces Knotty Problems To Meet Paper Needs

NEW YORK—A survey by the PAPER TRADE JOURNAL of casein users in the paper industry indicates groundwood printing, book and fine paper manufacturers are particularly hard hit by the current shortage and high cost of casein. In some instances, manufacturers have curtailed or discontinued production of coated paper products. Paper coatings are usually solutions of casein and various mineral substances, such as china clay, precipitated chalk, or titanium oxide (sometimes with coloring pigments added) to cover the paper fibers and fill up the hollows between them so that there will be a smooth printing surface. Here the casein acts as a binder. In order to stretch their limited casein supplies and at the same time keep production costs down, more and more manufacturers are supplementing or superseding casein with hide glue, corn dextrin, starch and other binders.

United States casein producers and consumers alike are doing some close calculations on where the war-buffeted casein industry goes from here. The 20-million dollar casein industry, small only by comparison with the major dairy products, is important as a source of by-product revenue for milk producers and as a raw material for industry. The fact that United States casein production dropped during the war to the lowest point since 1922, while its users turned to other sources of supply and to other raw materials, has called attention to the precarious arithmetic by which the industry has developed in this country. In between lines of current reports is evidence of real concern for the future.

At the turn of the century, about 12 million pounds of domestic casein brought United States processors 5 cents a pound, mostly from paper and glue manufacturers. By 1937, the output had jumped to over 67 million pounds, and the price to 15 cents a pound. When the war boosted the demand for fluid milk and other dairy products, casein was virtually lost in the scramble. OPA regulations froze casein's unfavorable price position relative to competing products, so that even with a greatly increased demand, production dropped, hitting a low of 13.3 million pounds in 1945. Increased consumption of all dairy products over prewar figures is offering keen competition for the available supply of milk. Casein production is feeling particularly the increased demand for non-fat solids with which it has to compete for the available supply of milk. On the demand side of the picture, casein is being challenged by the development of new synthetic materials which promise keen rivalry for some of casein's prewar markets.

In the skim milk market, producers of casein and dry non-fat solids make up the bulk of the demand. With the use of non-fat milk solids increasing continuously from 1935 on, in the United States, food and feed were consistently able to outbid casein for the skim supply. Under prewar conditions, a quantity of skim made into non-fat solids yielded about twice what the same skim would bring processed into casein. These price relationships have been maintained, and casein is still the least economic use of skim.

In response to increased demand for milk solids, and other wartime developments, a major shift took place in milk marketing habits. Over a quarter of a million United States dairy farmers shifted from selling farm separated cream to selling their milk whole to dairy processors. As a result, large quantities of skim formerly fed to animals or wasted were available to meet the demand for the production of dry non-fat solids. Since the present demand for non-fat solids is in part due to abnormal conditions abroad, it is expected that even with increased domestic use, there will be some decline in the total demand as conditions return to normal. If farmers continue the increased marketing of whole milk, there will be a greater supply of skim available than before the war. How much of this casein producers will be in a position to take up depends on the demand for casein, and the price casein processors can afford to pay for skim. This turns the spotlight on the question of the uses of casein, and what they promise.

Almost 95 per cent of all casein produced goes ultimately to the factory as an industrial raw material. More often than not, the factory is a paper mill, making glazed papers of the type used for "slick" magazines, lithographic reproduction and printing requiring half tones. The glossy coating on these papers is a thin layer of mineral matter, and at the turn of the century, paper makers used pot cheese, which is virtually pure casein, to bind the coating to the paper. Because the cheese had the unfortunate quality of spoiling in hot weather, paper chemists explored other possibilities. Finally by drying and powdering the cheese they found it made the most effective adhesive for the purpose. Now, more than 35 million pounds of casein a year are used by the paper industry.

Second largest use of casein is in the making of glue, with over 5 million pounds a year used for this purpose. In the adhesive field, casein has been able to compete successfully with other inexpensive animal and vegetable glues because it is water-resistent and quick to dry. Another 4 million pounds of casein a year normally finds its way into some 35 million pounds of paints and finishes of various types. Glamor entered the industry when it was discovered that plastics could be made from casein. Before the war over a billion buttons a year were being made from casein plastic. In nutritive value, casein compares favorably with such high protein foods as meat, and has been used as the basis for reconstituted milk and special formula foods, with other elements added to suit flavor and nutritional requirements. In medicine, casein has a wide variety of uses. It serves an an important ingredient of various therapeutic foods and tonics, and as a base for medicinal compounds, both liquids and ointments.

Since 1929, there has been rapid technical progress in the production of casein in this country. Through greater knowledge and care, there has been a marked improvement in the quality of the output of small plants. But even more marked has been the building of large plants with new and expensive equipment and closer technical supervision. Instead of small batches intermittently produced, modern casein mills use continuous methods of precipitation, pressing and drying, that turn out thousands of pounds of dry casein an hour. Not only do these methods yield a uniformly superior product, but at the same time they have reduced the cost of manufacture of high grades of casein. Nevertheless, economically, casein is still no match for the non-dry non-fat solids processors as a market for skim.

Imports of casein from Argentina increased to approximately 50 million pounds in 1945, but dropped off toward the end of the year as foreign buyers were able consistently to outbid OPA-bound United States users. The lifting of ceilings recently improved casein's position somewhat. However, the wartime shortage of casein was a body blow to its position in industrial markets. In 1941, domestic utilization reached a new high of about 90 million pounds. In 1946, it will be nearer 60 million pounds. In the face of the short supply, according to the Department of Agriculture, users of casein are shifting to other raw materials. Casein processors have likewise turned to other raw materials to help satisfy their customer's needs.

With the present high level demand for fluid milk and whole milk dairy products, there is no immediate prospect for any general easing up of the skim market. But even if and when there is more skim available, under present conditions, casein processing will continue to function economically only in localities where skim is avail-

able with no facilities for using it for other purposes. In these areas, especially during the flush season, the casein industry will continue to put to good use skim that would otherwise go into low return feeding or be thrown away. Under these conditions, however, even with the existing tariff, few areas in the United States can compete with low cost Argentine producers. One of the largest producers of dairy products, and with an economy not geared to high consumption of whole milk products, Argentina's casein production was a natural, especially during the period of war shortages, and reached an annual rate of 60 to 65 million pounds. Interestingly enough, there are already indications that in Argentina, too, the development of other uses for milk will cut into the casein picture. With improved sanitation and better processing techniques, Argentinians are turning more and more of their milk into cheese, milk powder and other edible dairy products. As they do so, the cost of casein production there should rise, and marginal users will have to look elsewhere for raw materials. Only laboratory research can materially alter the essentially inauspicious casein future. If any of the glamorous applications of casein in the field of plastics or fiber should come through, it might boom casein. It is conceivable that it might improve casein's bargaining power relative to other uses of skim, and so make possible an expanded production.

Referee Finds Norwood In Bankrupt State

NORTHAMPTON, Mass. — The Norwood Engineering company of Florence, manufacturers of paper-making machinery, which operated the plant in that community for several years, has been adjudicated bankrupt in the federal court in Boston, according to an official notice by Referee in Bankruptcy Walter I. Stevens.

Atty. Luke Ryan of this city represented the parties on whose petition the Norwood Engineering company was declared bankrupt by the court.

Under the usual procedure in cases of this nature, Referee Stevens will make a demand for the list of creditors, will notify the creditors of the court action and will call a meeting of the creditors, when a referee will be elected, subject to Stevens' approval.

Wisconsin Logging Needs More Equipment

IRONWOOD, Mich.—The logging industry of upper Michigan and northern Wisconsin faces a tieup next winter unless the Civilian Production Administration releases more new trucks and tractors and repair parts, Lawrence Walsh of the Timber Producers' Association said recently. He said that during the war industry had a priority on equipment, but it now operates on a quota basis.

In Handling Black Liquors . . .

SAVE

MAINTENANCE - LABOR - POWER

with

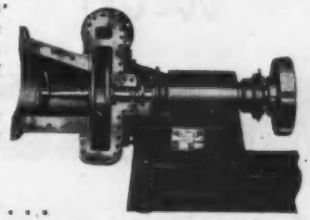
MORRIS

TYPE "S" SLURRY PUMPS

Used extensively for handling black liquors in pulp mills, Morris Type "S" Slurry Pumps consistently out-last and outperform lighter pumps. Wider clearance in impellers avoids restrictions and increases power efficiency. The patented *balanced pressure* of the impeller reduces leakage and eddy losses, keeps destructive quantities of corrosive liquors and gritty particles from circulating between the impeller and suction disc, and *greatly extends the effective life of the pump*. Renewable disc liners and throat ring, plus an external lateral shaft adjustment, assure a longer period of maximum capacity and efficiency, cut maintenance and replacement costs and shorten service interruptions.

MORRIS Type "ST-P" Stock Pumps

In Morris "ST-P" Stock Pumps a suction booster that mechanically agitates and propels the fibre into the suction eye of the impeller, sets up the continuous and uniform flow that is so essential in this type of pump. Even with high-consistency stocks, there is little tendency to extract water from the stock or to clog the intake with de-hydrated fibre. Where foaming or large amounts of entrained air are encountered, the horizontal top discharge—plus the action of the suction booster—speeds escape of the air and prevents air binding.



WRITE TODAY for . . .
Slurry Pump Bulletin No. 173 *Stock Pump Bulletin No. 176*

MORRIS MACHINE WORKS
BALDWINSVILLE, N. Y.
Sales Offices in Principal Cities

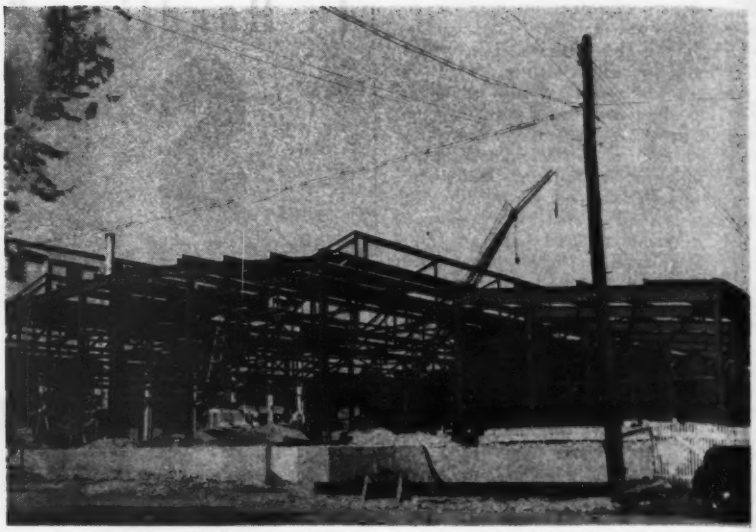
MORRIS CENTRIFUGAL PUMPS

Brown-Bridge Expansion Progresses on Schedule

TROY, Ohio—The extensive addition to the plant of the Brown-Bridge Mills, Inc., is progressing on schedule. The new structure will be 160 feet by 160 feet, of brick, concrete and steel construction. The east wall of the present building, shown in the photograph, will be opened to permit passage from one section to another.

In addition to the new equipment to be installed, some present equipment will be relocated to accomplish straight line production. Material handling will all be through the use of conveyors and forklift trucks. Raw materials will be received at one end of the plant. The finished product will go out the other end.

During recent years the Brown-Bridge gummed papers have experienced a phenominal increase in sales with the result that the flat paper production facilities have been taxed to the limit and much business has had to be turned down. The new expansion will permit doubling the flat paper production, and the extension of air-conditioning to this department will of course enable improved control of quality. The increased production anticipated for all the company's lines as a result of the new and more efficient facilities should be of considerable help in filling the requirements of the many users of tapes and gummed paper.



Brown-Bridge shows progress in its construction program.

Union Screen Plate to Introduce Corrosist

FITCHBURG, Mass. — The Union Screen Plate Company has acquired American manufacturing rights to a new flat screen plate constructed entirely of stainless metals. This screen plate, which is new to the American market, was developed in Canada by the Union Screen Plate Company of Canada, Ltd., and has been in active service there for more than eight years. It has been enthusiastically endorsed by some of the largest Canadian pulp and paper mills and it is believed that it will prove to be a major advance in the manufacture of screen plates in this country. The new plate will be marketed under the trade name Corrosist.

It is expected that production will begin in October of this year.

Strength... Durability... with MEAD Chestnut Cores

Rugged strength . . . resistance to impact . . . durability. These are the qualities that make MEAD CHESTNUT CORES the No. 1 choice for tough shipping requirements. These cores are spirally constructed of Mead chestnut fibre, giving them hardness and rigidity and great crush-resistance. They are tailor-made to your specifications, pre-tested before shipment. They provide protection against even the worst handling conditions. Send for free samples and test them yourself. *Make your next carload* . . . MEAD CHESTNUT CORES.

THE MEAD CORPORATION
Lynchburg, Virginia

British Paper Makers Visit Holyoke Mills

HOLYOKE, Mass. — With their English paper mill getting on its feet again after near-destruction in the 1940 blitz, two top officials of Imperial Paper Mills, Ltd., were in Holyoke last week in the course of a tour designed to acquaint them with latest papermaking developments on this side of the Atlantic.

M. L. Hobday, general manager, and John Lawton, mill superintendent, were sent over in mid-August and on completion of their tour will sail for England Oct. 15 aboard the Aquitania, aboard which, incidentally, Mr. Hobday served as gunnery officer during World War II.

The Englishmen have been guests of C. H. Kent, resident manager of the Paper Makers Chemical department of Hercules Powder Company. While here they visited the Parsons Paper Company and American Writing Paper Corp. plants. They were guests at a luncheon of the Holyoke Rotary Club. Mr. Hobday, a Rotarian himself, addressed the club briefly, expressing appreciation for the hospitality accorded him and his colleague while in the United States.

Imperial Paper lost 12 of its 14 papermaking machines in its mill at Gravesend, near London, in one night during the 1940 blitz. It now has two machines being manufactured in England.

Mason-Neilan Control Valves Featured in New Catalog

BOSTON — Mason-Neilan Regulator Co., makers of control instruments and regulators announce a new comprehensive control valve catalog. Sections in this catalog cover valve flow characteristics, selection and types of control valves, construction, materials and specifications of the Masoneilan control valves.

Interesting comparison and discussion of valve flow coefficients and curves demonstrate the theory of control valve operation. This data forms a basis for engineered selection of control valves to fit specialized applications.

Mechanical design and operation of Masoneilan control valves are described with several illustrations. Dimensions, weights, materials of construction and other specifications are included. Copies of the catalog may be obtained from Mason-Neilan Regulator Co., 1181 Adams St.

Rhinelander Adds to Pradt's Duties

RHINELANDER, Wis. — The Rhinelander Paper Company has appointed Alan E. Pradt as director of advertising. In addition to his new duties Mr. Pradt will continue to be in charge of coated paper sales for the company. Frank C. Nahser, Inc. of Chicago has been appointed as Rhinelander advertising agency effective October 1.

OBITUARY

John G. Murphy

POTSDAM, N. Y.—John G. Murphy, general supervisor and production manager of Racquette Paper Company, died October 4th in Potsdam Hospital after an illness of five weeks. He had undergone a series of operations.

A native of Scotland, Mr. Murray was educated there. He represented over a century of paper making, since his father and grandfather were both makers of fine grade paper in Scotland.

His father was supervisor of Guard Bridge Paper Company for 30 years and it was there that Mr. Murray first learned paper making. He came to the United States in 1900, joining the Hollingsworth and Whitney Paper Company, Waterville, Me., where he supervised the operation of two paper machines for nearly 30 years. He joined the Raquette River paper company in 1929 where he served until his recent illness.

S. W. Dunning

NEW YORK—S. W. Dunning died at his home in Plainfield, New Jersey, on October 7 at the age of 79. Mr. Dunning, who retired some years ago, was widely and favorably known in the paper industry having operated in New York for a time as mill agent for prominent paper mills. He was previously connected with D. S. Walton and Co.

A LONG TIME TO LOAD THE TRUCK
3½ MIN. TO UNLOAD IT!

It takes this Blaw-Knox Size No. 8 Grapple just 1 minute, 16 seconds to pick up and stack a full cord of 16 ft. length wood. Think of the man-hours, truck time and crane time saved by such speed and efficiency! Wherever pulpwood is handled you'll find Blaw-Knox Grapples on the job.

BLAW-KNOX DIVISION OF BLAW-KNOX COMPANY
2119 Farmers Bank Bldg., Pittsburgh 22, Pa.
New York • Chicago • Philadelphia • Birmingham • Washington

For complete data write for Bulletin No. 2043.

BLAW-KNOX PULPWOOD GRAPPLES

PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

W. L. Cook, Editor

Industry's Problem

In his avowed intent to secure a better public understanding of the pulp and paper industry's views and its plans in relation to maintenance of a permanent and adequate supply of fibrous raw materials to meet existing and future requirements, E. W. Tinker at the same time is performing a highly important service in crystallizing the opinion of closely allied interests. It is good for the converter, the supplier, the merchant to be reminded in clear simple terms that Nature also has a hand in producing the industry's future, and that by proper study and use of its forces Nature can be made an actively cooperating agent. That is why the words of the American Paper and Pulp Association's Executive Secretary before the American Forest Congress carry an intimate appeal to a vast audience outside of the room in which he spoke.

The pulp and paper industry, he reminded his hearers, is one of the major industries of the United States with capital assets of well over three billion dollars, in primary manufacturing establishments. Its investment per worker employed ranks the highest of any industry in the United States, approximating $19,000 per individual. It is characteristically a small town industry and a large number of communities in the United States are dependent upon the industry for their continued existence. Because of the very large capital investments required in plant installations, the industry is not migratory. Civilization as we know it is dependent upon its products. Without paper, our standards of education, sanitation and our entire business and industrial structure could not be maintained. It is estimated that the primary manufacturing industry and processors dependent upon its products offer direct employment to well over one million people.

Basic to the maintenance of this enterprise, is an adequate supply of wood, now and in the future.

The availability, Mr. Tinker went on, of adequately and reasonably priced supplies of pulpwood is far more than an academic problem to executives in pulp and paper mills. To his knowledge, he declared, there is no company in the industry manufacturing pulp that is not giving this question most serious consideration and making definite plans to the end of maintaining their existence. Because they cannot migrate without terrific losses, it is obvious that these considerations must lead to definite plans of action that will assure the individual companies' objectives. It is equally obvious that as economic studies indicate the desirability of more intensive forestry practices on the part of pulp and paper companies, such practices are and will continue to be put into effect as a matter of course.

The concern of pulp and paper mills with the proximity of their wood supplies is indicated by the fact that out of a total annual freight bill of $130,000,000 paid the railroads alone, approximately $21,000,000 is expended in freight in hauling wood. Obviously the economists and foresters in the various companies must be actively engaged in the development of plans that will result in the curtailment of this large item of expense. In many cases the practice of most intensive forestry will be justified.

As a result of a survey made by the American Paper and Pulp Association covering 9,351,562 acres of company-owned land, it was found that 9,330,174 acres were being held for permanent forest production and we have every assurance that this acreage is being extended from day to day. Any student of the economics of the paper industry with knowledge of the thinking of executives in the industry will appreciate that land will not be held permanently by companies without consideration of ways and means to make this land produce the most in the form of returns to the company. This should assure that the best forestry practice that has economic justification will be adopted.

Beyond the question of company-owned land, lies the problem of obtaining maximum forest production upon lands resting in other ownership than the individual company. This is of vital concern and it is in view of the pulp and paper industry that with the industry rests a major responsibility to encourage forest production and the best forestry practices on the part of private owners, not only in the company's interest but in the public interest as well. In this effort, the pulp and paper industry is vitally concerned to obtain the maximum cooperation, particularly with state forestry organizations as well as state extension services. It is the industry's belief that the situation justifies concentrated and coordinated effort that will assure the desired results.

It is the industry's position that state analyses of the relationship between productive capacity of forest lands available to existing and potential forest products industries should be completed as rapidly as possible. These analyses should be on the basis of a joint effort on the part of Federal and state public agency representatives and the industries concerned. It is the industry's belief that analyses on the basis of a maximum unit, not beyond the size of an individual state, are required in order to obtain realistic

Calendar of Coming Events

November 7-8, 1946—National Paperboard Association Annual Meeting, The Waldorf-Astoria, New York City.

consideration of the question and a realistic program of action.

The pulp and paper industry is initiating a careful study of the existing and potential demand for its products and its capacity to produce the products that can be absorbed. In the final analysis this capacity will be determined by the adequacy of the supply of raw materials available to the industry. It is the industry's conception that this is an individual company problem that will be solved through individual company action. In this effort, it is recognized that there is a tremendous public interest at stake and it is the industry's hope that, with due regard to local environment, plans can be developed, in cooperation with public agencies, for maximum use of private forest lands, promptly when economic conditions justify their development.

Lest the viewpoint of the organized pulp and paper industry toward Federal appropriations for forest conservation may have created doubt in the minds of Federal foresters with respect to the industry's interest, Mr. Tinker sought to clarify this viewpoint with the hope that it will be subscribed to by the Congress of Forestry Men. It is the industry's position, he declared, that, in the main, the public responsibility lies in providing adequate fire protection, adequate provision for insect and disease control, fundamental research and, of course, administration of the national forests. With full appreciation of the vast field of Federal activities in forest conservation that might be undertaken, he summed up, the paper and pulp position is that no industry should request or support Federal appropriations beyond those clearly outside the scope of private development at private expense. This is basic to its conception of the private enterprise system.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1946		Corresponding Weeks—1945	
August 31	105.6	September 1	95.2
September 7	86.7	September 8	75.9
September 14	105.1	September 15	94.0
September 21	105.8	September 22	94.3
September 28	106.6	September 29	98.1
October 5	*107.2*	October 6	94.1

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	86.7	89.4	90.2	88.1	89.8	91.2	80.8	88.6	90.2	95.9	95.5	91.0	89.7
1946	94.7	98.4	104.4	102.7	100.7	104.6	94.0	104.7	*101.3*				

COMPARATIVE YEARLY SUMMARIES

	1939	1940	1941	1942	1943	1944	1945	1946
Year to Date	80.1	86.2	95.4	92.0	88.2	88.0	88.4	*100.6*
Year Average	83.4	85.6	97.4	90.4	87.8	88.1	89.7	

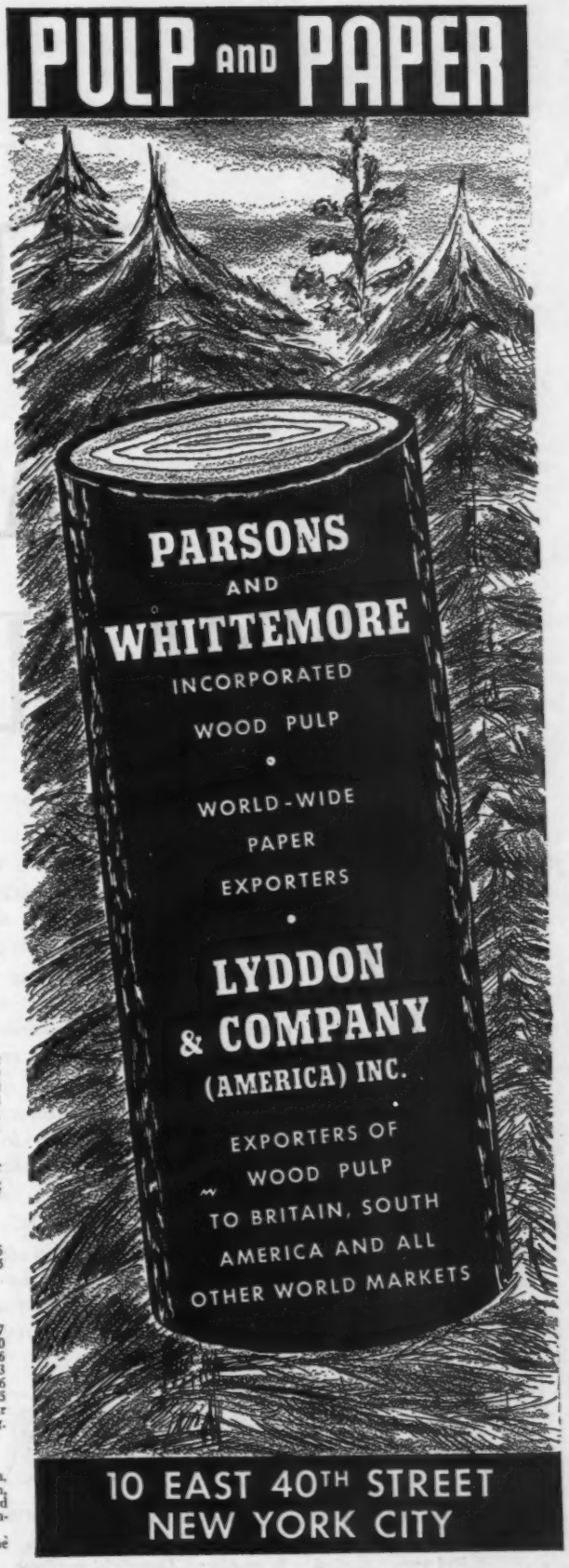
PAPERBOARD OPERATING RATIOS†

Current Weeks—1946		Corresponding Weeks—1945	
August 31	100	September 1	97
September 7	83	September 8	80
September 14	101	September 15	96
September 21	100	September 22	93
September 28	101	September 29	96
October 5	*100*	October 6	95

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	91	95	97	97	96	96	86	90	91	97	95	85	93
1946	90	97	100	99	94	97	89	99	*96*				

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.



EXPANSION AT WYANDOTTE!

Here's important news for industries that need chemicals! To help meet the tremendous post-war demand, Wyandotte Chemicals Corporation is investing twenty-five million dollars in an extensive plant expansion program.

This program, already under way, will be completed within eighteen months. It will mean greatly increased production of chemicals already being supplied by us — such as soda ash, chlorine, calcium carbonate.

The erection of our new glycol plant will provide materials to facilitate the production of many articles — ranging from radiator anti-freeze for automobiles through brake fluids, cosmetics, tobaccos, silk, wool, cotton and fumigants.

Our new synthetic detergent plant will enable us to meet many industrial needs.

In the meantime, Wyandotte will maintain its policy of allocating production with the utmost fairness to its regular customers at all times. And we shall be looking forward to the day when we can supply more.

OFFICES IN PRINCIPAL CITIES

WYANDOTTE CHEMICALS CORPORATION • MICHIGAN ALKALI DIVISION • WYANDOTTE MICHIGAN

Soda Ash • Caustic Soda • Bicarbonate of Soda • Calcium Carbonate • Calcium Chloride • Chlorine
Hydrogen • Sodium Zincates • Aromatic Intermediates • Dry Ice • Other Organic and Inorganic Chemicals

Section of the
TECHNICAL ASSOCIATION
OF THE PULP & PAPER INDUSTRY
122 E. 42nd St., New York 17, N. Y.
Edited by R. G. Macdonald, Secretary

The Color Aptitude Test — 1944 Experimental Edition*

By J. L. Parsons[1] and A. H. Croup[2]

Abstract

During the past year the Color Aptitude Test Committee of the Inter-Society Color Council, of which TAPPI is a member, has announced the development of a color aptitude test to aid in evaluating the color skill, actual and potential, of people whose jobs involve the matching of colors. Recently the data from 500 observers have been accumulated and this presentation comprises a discussion of these results together with a description of the test. Figures showing the total score, the score per match, and the score per minute are of interest to those concerned with color perception. Color is an important attribute of paper and therefore color aptitude is an essential skill for workers in the coloring or color matching of paper. The color aptitude test should be of help in this respect.

For over five years the Inter-Society Color Council, of which the Technical Association of the Pulp and Paper Industry is a member, has had a committee investigating a test designed to evaluate a person's general ability in matching colors. The original problem, presented by a representative of the textile industry, was to devise a method of determining the color skill of industrial workers whose jobs require rapid and accurate judgments of color matches. To answer this need, the Council's committee has brought out the 1944 Experimental Edition of the Color Aptitude Test.

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] Member, Color Aptitude Test Committee, Inter-Society Color Council; Chairman of TAPPI Delegates to Color Council; Hollingsworth & Whitney Co., Waterville, Me.

[2] Chairman, TAPPI Optical Properties Committee; Member of TAPPI Delegates to Color Council; Hammermill Paper Co., Erie, Pa.

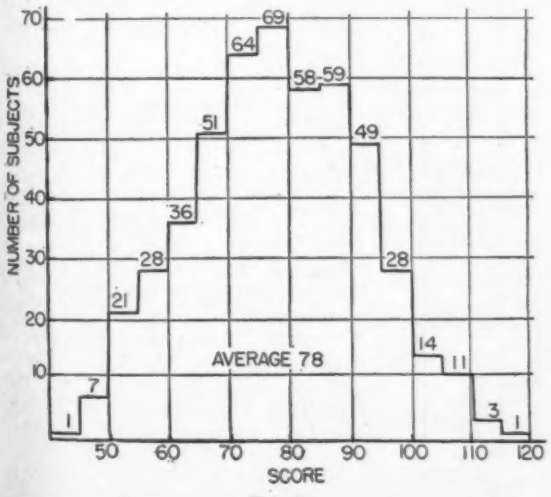


FIG. 1

Distribution Curve of Scores—500 Cases. 110 = Exceptional. 100 = Superior. 90 = Excellent. 80 = Very Good. 75 = Good. 70 = Acceptable.

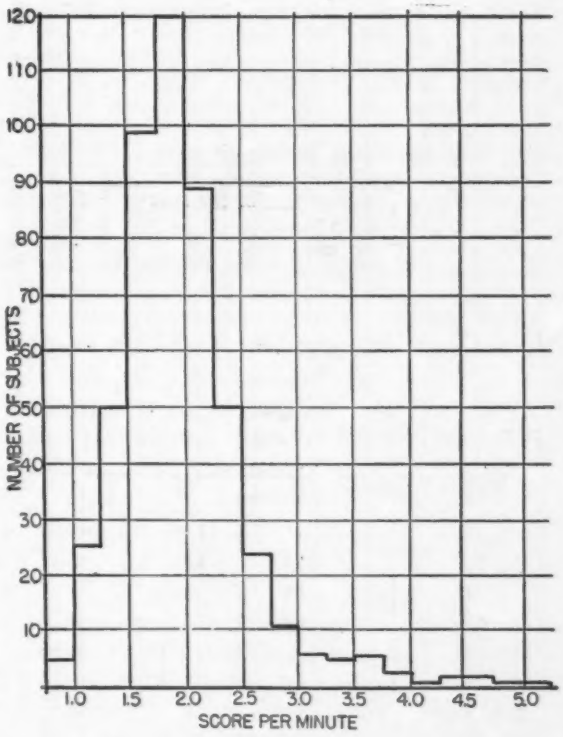


FIG. 2

Test Materials

The test materials consist of fifty duplicate pairs of colored chips. There are five color series (red, yellow, green, blue, and gray) of ten chips each. These colors were selected because they cover a wide range and because they lie in the region of color deficiency. The

red and green hues compare with results of recent studies on color blindness, and the other colors eliminate the rarer yellow and blue deficiencies. The test is not intended, however, as an efficient method for the evaluation of color blindness, and yet in designing the test there was every reason to prevent persons with color deficiencies making scores as good as those of normal observers. Even the best observer under favorable conditions finds it too difficult to make all the matches correctly.

Color aptitude scores will vary with the inherent color interest of the subject, by his motivation at the time of testing, by his previous training with color discrimination, and by his capacity to profit by training. It is a skill capable of improvement. The use of color perception by the individual is measured by his ability to find the best matches in a given time among fifty chips, one at a time, in an unordered arrangement and matched against a gray background. A score is largely determined by the accuracy with which the matches are made but a time limit of 45 minutes is set so that over-deliberation reduces the final score as well as does inaccuracy. In other words, high scores indicate both rapid and accurate matching.

Credit for the development of the chips to assure color-fastness and durability, and to conform to color specifications goes to Carl E. Foss, co-chairman of the Color Aptitude Test Committee, and to Walter C. Granville, one of the committee members. Colorimetric data were computed for the spectral reflectance curves, measured on the General Electric Recording Spectrophotometer, using the thirty selected ordinate method for ICI illuminant C. Tristimulus value Y and trichromatic coefficients x and y are listed in Table 1 for the end points of each color series. Also listed are the corresponding Munsell renotations.

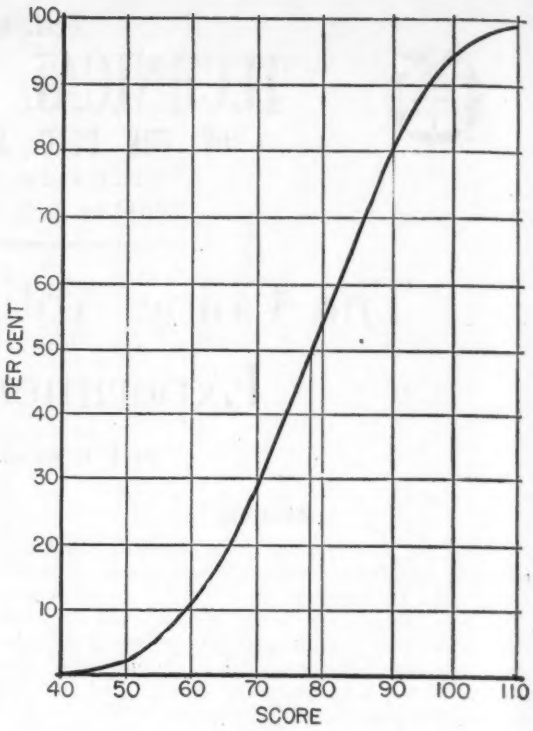


FIG. 4
Percentile Score

Testing

For every perfect match a person is scored three points, and errors of one and two steps removed from a perfect match count two and one points, respectively. No credit is given for matches more than two steps removed. Thus, the maximum possible score is 50 by 3 or 150 and so far has not been achieved. The chips to be matched with the mounted ones are fed one at a time from a holder and after matching must be returned to the holder, in order to obtain the next chip. The holder, therefore, always presents the chips in the same order for each observer. Those who do not complete the entire test in 45 minutes have followed the same color sequence because of the standard order of arrangement in the chip holder.

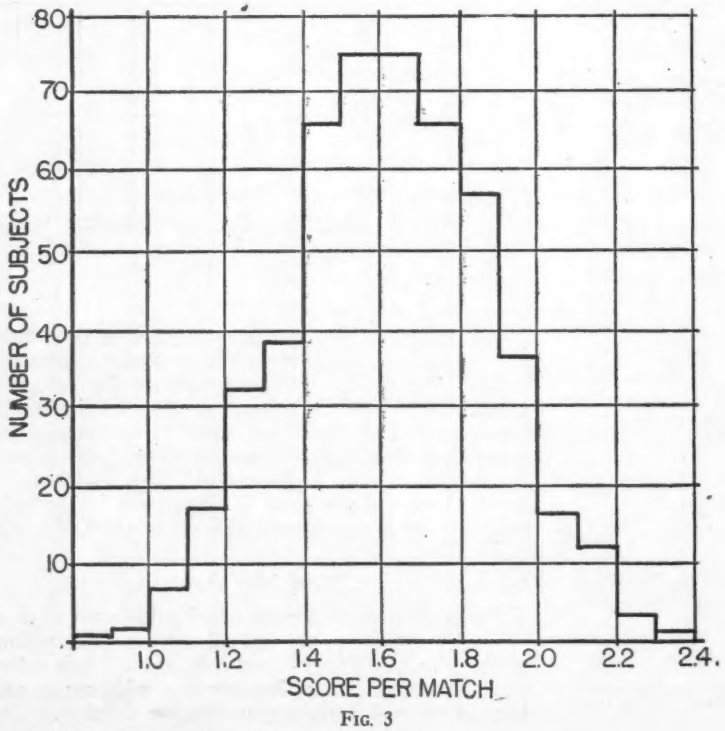


FIG. 3

Proper illumination as well as accurate timing are essential to valid test results. The color aptitude test has been designed and standardized for average daylight conditions. Diffuse north daylight of 50 to 100 foot candles is desirable although Macbeth artificial daylight gives satisfactory results. Some matchers employ daylight fluorescent light. Tungsten light is undesirable because the chips appear marked by yellow. Artificial illumination should be uniform over the test field at approximately 50 foot candles. Because of the fact that the surface of the chips are somewhat glossy the standard conditions of 45° illumination and perpendicular viewing (or the reverse) are met automatically in the effort of the

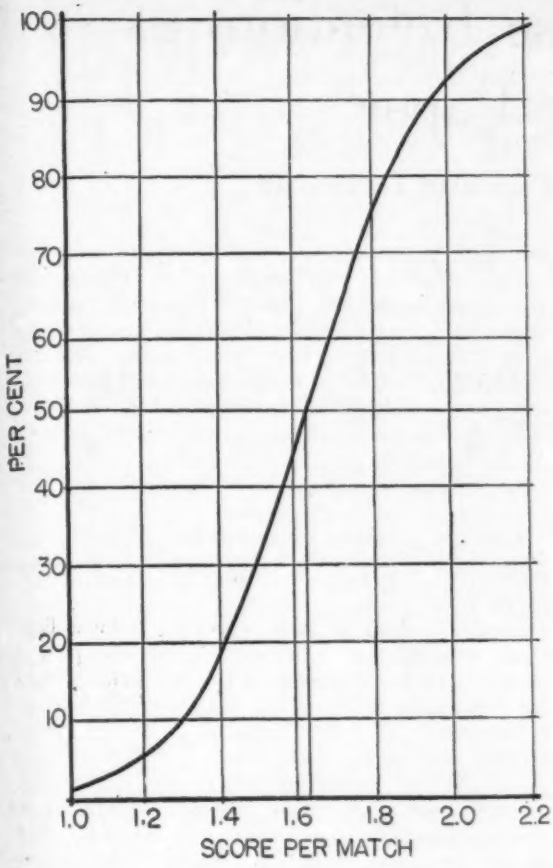


FIG. 5
Percentile Score Per Match

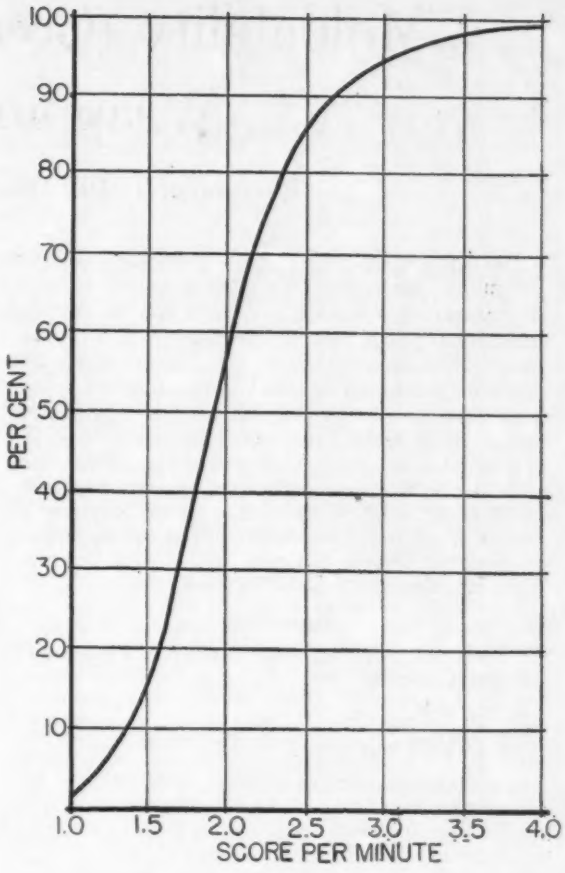


FIG. 6
Percentile Score Per Minute

TABLE I

Sample	ICI Specification Y	x	y	Munsell Renotations	
Red No. 1	0.2058	0.3760	0.3075	0.5R	5.09/5.2
Red No. 10 ...	0.1971	0.3627	0.3103	0.7R	4.99/4.1
Yellow No. 1...	0.1964	0.4027	0.3860	10.0YR	4.99/4.1
Yellow No. 10..	0.1920	0.3945	0.3800	10.0YR	4.94/3.7
Green No. 1....	0.1927	0.2524	0.3506	1.2BG	4.94/5.5
Green No. 10...	0.2021	0.2624	0.3436	1.5BG	5.05/4.6
Blue No. 1....	0.1976	0.2760	0.2545	0.1P	5.00/4.9
Blue No. 10...	0.2007	0.2849	0.2691	0.3P	5.03/3.7
Gray No. 1....	0.2007	0.3089	0.3166	5.0BG	5.03/0.1
Gray No. 10...	0.2195	0.3089	0.3166	5.0BG	5.24/0.1

observer to prevent reflection of the light source.

Five hundred test scores have been accumulated by the Color Aptitude Test Committee from subjects in industries and colleges. From these data distribution scores of the total score (Fig. 1), of the scores per minute (Fig. 2), and of the scores per match (Fig. 3) have been drawn. The total score will in general reflect the individual's color aptitude with respect to accuracy and speed. The score per minute curve is of interest to those concerned with the speed of matching. The score per match curves relate to the quality of the matching. For the three methods of evaluation the percentile ratings have been calculated and are shown in Figs. 4, 5, and 6. These show the percentage of scores at or below a particular score. Thus the relative position of any subject with respect to the entire group is shown.

The lowest reported score of 40 corresponds to the theoretical chance score that would be obtained if the chips were laid down without an attempt to match them. The highest score among the 500 cases was 116, and the minimum time required to make 50 matches was 13 minutes. The average score was 78. Retesting with the color aptitude test shows an improvement, although the best scorer quickly approaches a maximum level.

Among 31 observers in a paper mill the average score amounted to 64. The average score per match was 1.68 and the average score per minute calculated to 1.61. The highest score reported was 95 and the lowest, 40, within the 45 minute period. The test was allowed to continue until the entire 50 chips were matched but, with few exceptions, there was no marked change in the matching rate or score per minute. For these 31 observers the following averages were made with the different colors:

Neutral (Gray)	Blue	Red	Green	Yellow
13	16	13	12	10

Acknowledgement

Credit for supplying most of the material, including the graphs, for this presentation goes to Forrest L. Dimmick, co-chairman of the Color Aptitude Test Committee, who has recently completed a statistical study of the test data. Dr. Dimmick observes that a person who scores high without any special training has acquired his skill with colors out of native interest and accordingly has an initial advantage over a low scorer for further training in that skill. In recent years color has become an important property of paper and color aptitude, therefore, is an essential skill for those working with colors in the manufacture and testing of paper. The test developed by the Color Aptitude Test Committee of the Inter-Society Color Council should be of help in locating and training workers in this field.

Moldability (Crease Retention) of Wrapping Paper*

Revision of TAPPI Official Standard T 446 m-42

The procedures herein described are applicable for determining the ability of wrapping papers to retain a crease after being folded. Method A is intended primarily for lightweight papers used for wrapping the majority of ordinary packaged commodities and measures the spring-back when the sheet is folded completely upon itself. Method B is for impregnated, laminated, or heavy kraft paper wrappers used for wrapping heavy packages where the applied pressure is substantially greater than that of usual wrapping machines. It indicates the ability of the wrapper to remain in position after being folded by mechanical wrapping equipment but without allowing the surfaces, if adhesive, to stick together.

Apparatus

1. *Protractor.* Semicircular, divided along a 1-inch diameter semicircle.

2. *Weights.*

For Method A: A rectangular, smooth-faced metal block, 0.75 ± 0.05 inch by 1.25 ± 0.05 inch and of such a thickness as to weigh 50 ± 0.05 grams. The two smaller surfaces are divided into thirds by two parallel lines 0.25 inch apart and each 0.25 inch from the adjacent vertical edges of the block.

For method B: A cylindrical metal weight having a diameter of 1.75 ± 0.002 inches and of such a weight as to weigh 1.0 pound ± 0.5 ounce (454 ± 14 grams). The bottom surface shall be smooth and flat.

3. *Flat Surface.* A smooth, flat surface. For Method B it should be at least 6 by 3 inches, but for Method A it need not be larger than 4 by 2 inches.

4. *Stopwatch* or other chronometer reading in seconds.

Test Specimen

The test specimen shall consist of at least twelve strips of the paper about 100 mm. (4 inches) long, an equal number of which are cut in each of the principal directions of the paper. For Method A the strips shall be 25 ± 0.5 mm. (1.0 inch) wide, and for Method B, 50 ± 0.5 mm. (2.0 inches) wide. Before testing the paper shall be conditioned according to TAPPI Standard T 402 m.

Procedure

The test shall be made in an atmosphere conditioned according to Standard T 402 m.

METHOD A.

Square the end of each strip and make a light mark 25 ± 0.5 mm. (1 inch) from one end. Place the strip on the flat surface, bend the strip over at this mark without creasing it, and place the weight squarely and gently over the bend with two thirds of it over the specimen, so that a crease is formed with one third or 0.25 inch of the weight overhanging the crease, and so that the edges of the weight, parallel to the strip, project evenly beyond each side of the strip. (Take care not to rock the weight over the creased edge. The edge of the weight lying over the specimen should be placed in contact with it before the weight is finally allowed to rest on the crease.) After 10 seconds remove the weight; pause for exactly 30 seconds, and then with the protractor read the angle formed by the crease.

Make an equal number of tests on each side of the paper, using at least six strips cut from each direction.

METHOD B.

Square the end of each strip and make a light mark 50 ± 0.5 mm. from one end, or have parallel lines 50 mm. apart marked on the flat surface. Place the strip on the flat surface (with the coated side up, if coated). Fold the strip over at this mark without creasing it. If the specimen is treated with wax, resins, etc., which would cause the faces to stick together, fold it over with two separate squares of thin cellophane having edges about 55 mm. (2⅛ inches) long, placed in the fold so as to prevent contact of the face of the strip when folded.

Place the 1-pound weight squarely and gently over and across the center of the fold so that it just remains balanced on the folded strip, taking care not to rock the weight over the creased edge. After 30 seconds, remove the weight, pause for another 30 seconds and, with the protractor, read the angle formed by the crease, at a distance of 25 mm. (1 inch) from it.

Make an equal number of tests on each side of the paper, using at least six strips cut in each direction.

Report

The average percentage crease retained in strips cut in the machine direction and in the cross direction, respectively, shall be reported for each of the two sides to the nearest 1%. This is calculated from the formula

$$C = \frac{100\,(180 - A)}{180},$$

where C = average angle formed in the crease,
and A = percentage crease retained.

If desired, the percentage spring-back may also be calculated by subtracting C from 100.

For ordinary papers, designate the sides as wire side and felt side, when they can be differentiated; otherwise, use a suitable code designation such as Side I and Side II, or, when there is an obvious difference between the sides, such as Side 1 coated and Side II uncoated. The side designated shall be that on the inside of the fold.

The report shall also state whether Method A or Method B was used.

*This revision has been approved by the Paper Testing Committee. Criticisms are earnestly requested and should be sent to R. G. Macdonald, Secretary, Technical Association of the Pulp and Paper industry, 122 E. 42nd St., New York, N. Y. Reprints of this standard may be obtained from the Secretary at 25 cents each.

Sulphite Pulp Production Records—Their Value, Significance, and Extent*

By H. W. Bialkowsky[1]

Abstract

It is stressed that for efficient operation of a manufacturing process it is necessary to control the variables and also to keep accurate records of the operating conditions which serve as a sound basis for cost accounting and proper quality control.

The record system of the Pulp Division of the Everett mill of the Weyerhaeuser Mill is cited with special reference to wood preparation and digester operation.

The entire progress of civilization is based on man's ability to record events and conditions. Experience will always be the great teacher and man's ability to record the events and the exact conditions pertaining to the events, is the forerunner of all progress. The process of recording facts can be greatly simplified if the conditions, factors and results can be measured and expressed numerically. As Lord Kelvin so ably stated, "I often say that when you can measure what you are speaking about, and express it in numbers you know something about it, but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind." This does not necessarily imply that the measurements and resulting data should be directly related to fundamental factors. As a matter of fact, most of the measurements and data on the pulp and paper industrial operations pertain to secondary manifestations of the fundamental factors. In many cases, knowledge of the fundamental conditions and mechanism of a process is so meager that arbitrary standards, tests, and methods are established which are designed to fix and control the process in an empirical manner. Likewise most of the standards and tests applied to pulp and paper products are of an empirical nature because the knowledge of the nature of the product has not been completely developed. The knowledge of the mechanism of the processes and the nature of the products are in a constant state of evolution and the rate of development of knowledge will depend upon the ability to devise new techniques and measurements, and to record and analyze observations. Study of the records and data invariably leads to further reasonably sound speculation on the nature of the processes and products which in turn leads to improvements in our operations.

In this discussion the term "records" will include not only the figures and data recorded, but also the means of measuring and obtaining the actual records.

Practically all business operations today, maintain fairly elaborate manufacturing records for cost accounting purposes. From a theoretical view point, the records maintained for cost accounting purposes should be precise and representative of actual operating conditions. In many cases, however, cost figures are obtained by estimate allocating and proportioning of the overall material, labor, energy, and expense. Estimated figures and records often lead to erroneous conclusions when an attempt is made to analyze operations in a scientific manner. Many of the factors, which our industry is trying to bring to light, are very subtle, and rather precise measurements are necessary to evaluate their causes and effects. Operating figures and records should be refined to a point where the precision obtained is balanced by the expense of the refinement. Many of the figures necessary for cost purposes are the same as, or can be derived from the basic operating records. Cost figures comprise only a part of the desired data for scientific plant operation and as the cost breakdown becomes more detailed, more of the basic operating data can be brought into use. In general, the operating figures and records which are of interest to cost finding are those related to the overall materials, energy, and labor balances, whereas from a technical or scientific aspect, the operating figures should also include measurements on the manner and conditions of the operation, and data on the quality changes in processing materials and products. Precise operating figures and records should be developed to a form where they are not merely luxury items of scientific interest, but where they are the sound basis for cost accounting and proper quality control.

During the past two decades, great strides have been made in the technical development of pulp and papermaking operations and the quality im-

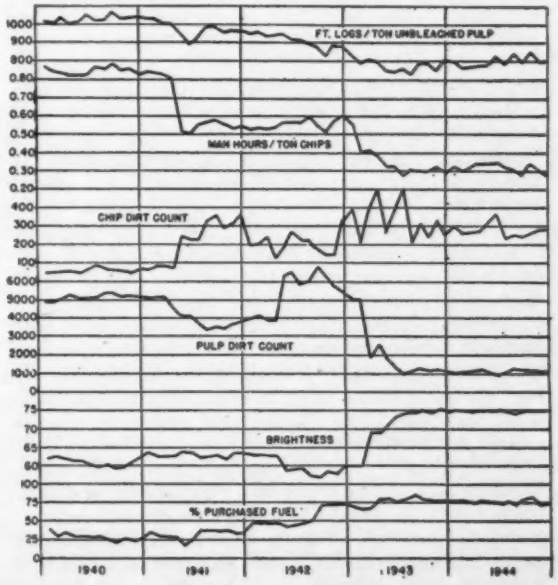


FIG. 1

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] Member TAPPI; Technical Director, Pulp Division, Weyerhaeuser Timber Co., Everett, Wash.

provement of the products. Laboratories and technical control departments have been established in most of the plants for the purpose of maintaining uniformity of the quality of their products and the material during the course of manufacture. Gradually also, the technician has introduced recording and controlling instruments and other devices for the purpose of maintaining the desired quality. In most of the older plants, conditions and facilities were not available for strict control of the operating variables and development work was left entirely to the research department with the pilot plant facilities. The major premise in all research work lies in the ability to duplicate conditions with a very rigid control of all the operating variables. If, however, a plant is equipped with the necessary facilities for measuring and controlling all or most of the pertinent variables, the plant itself can become a large scale pilot plant operation and much more valuable information can be derived from the commercial experiments than from the tests made in miniature. Research and pilot-scale experiments are necessary where entirely new techniques are under consideration, or where it is not feasible to alter the commercial operation to fit the conditions of the experiment. Aside from purely academic questions, if the results of the pilot plant or small scale work are to be realized, they must eventually be translated into commercial or full scale operation, and if corresponding results are to be realized in commercial practice as were indicated by the preliminary research, it is imperative that the same care and control be exercised in both cases. Under present day operation where a maximum degree of quality control with a minimum waste in raw materials is desired, it is essential to provide all of the necessary control and measuring devices within reason in order to obtain the desired results.

Records in Sulphite Pulp Industry

In the sulphite pulp industry, as in any other modern industry, there are a number of distinct lines of approach in obtaining operating figures. For many of the variables which it is desirable to measure and control there have been developed standard instruments for the specific purposes, such as temperature, pressure, liquid level, flow, and other recording and controlling instruments. Many of the factors have to be controlled by manual testing and measuring while the process is in operation either because automatic equipment has not yet been devised or because the automatic features would be too cumbersome and impractical. Some factors which do not vary too widely or which can only be evaluated by lengthy testing methods, are measured and analyzed quite some time after the processing has been completed.

Automatic recording and controlling instruments play a predominant role in all of pulpmaking operations. The details of instrumentation can be found in the various manufacturers' catalogues and in text books on automatic control. Testing techniques and procedures have been devised by the individual mills and standard methods have been and are constantly being developed by TAPPI and other groups, the details of which are known or are readily available.

In all of the training in the physical sciences, one is constantly being taught to maintain neat and complete notebooks, and to prepare lucid and comprehensive reports on the experiments and observations. If an attempt is made to operate the plants in a true technical and scientific manner, clear and readily available records of the operating conditions and of the results accomplished should also be maintained. A great deal of time, effort, and money is often spent to obtain certain information and the results are often left to the memory, or the findings are recorded in isolated and haphazard notes. In the broader sense, the maintenance of clear and concise records is of just as vital importance as the making of the measurement or observation. In an operation of the size and scope of a modern pulp plant, the processing can be broken down into a number of steps or departments which often have their own foremen or supervisors. The foreman often maintains notes and records on his own department. However, since most of the operations involve a series of treatments, variables in one department often have effects on subsequent processing. Harmony and smoothness of the overall operation was left to the plant superintendent, and the successful operation of the plant depended on his skill in juggling all of the variables. With the technical development of the pulp industry, the number of variables and points of control is steadily increasing; and in order to simplify the work of the superintendent and foremen, up to the minute operating data should be available to them as well as records of the past operation. This relieves the supervisor of a great deal of unnecessary detail and permits him to direct his efforts to the conditions at hand.

Charts

There are numerous ways of maintaining operating records. In the Pulp Division, the daily operating figures are recorded in work books and most of the pertinent data are posted on large graphical charts. A group of specially trained clerks for collecting and developing the records and constantly keeping the daily graphical records up to date is maintained. A complete description of the chart room methods and techniques was given by A. S. Gerry, *Pacific Pulp and Paper Magazine* 18, No. 7 (July, 1944).

A complete description of all the instruments and techniques used in obtaining records is beyond the scope of this paper. Moreover, each mill has its own individual and particular problems, and factors that are of vital importance in one plant, may be only of secondary importance in another. In addition, instruments and methods are constantly being improved and often present equipment cannot be discarded for the newer and more versatile models. It may be well to point out and discuss some of the instruments and techniques used in the various operations, although this discussion must necessarily be brief and sketchy.

In order to confine this paper to specific installations, the following considerations pertain to the operations of the Pulp Division, particularly the Everett Mill. In each instance it is not the intention to claim that it is the only or best way to do a certain job, but simply to point out a way which has proven satisfactory considering all the factors involved.

Charts on Wood Preparation

In the wood preparation department, weightometers play a very important role. Wood is the major raw material and daily operating figures and records of the chip yields and wastes are of vital importance. At Everett, the hydraulic log barker and whole log chipper are operated on the day shift, while the hydraulic slab barker and the small chippers are operated on the evening shift which in some cases permits the use of the same equipment for measuring the chips and the waste in each type of operation.

Weightometer measurements are obtained on the chips from the big barker, chips from the small wood, bark waste, and wood waste. The weightometer readings indicate only the material passed over the belts, and in order to obtain the fundamental air-dry or moisture-free weights it is also necessary to maintain automatic or manual sampling stations and to provide for daily testing of the moisture content of the various components. The moisture tests are made by the shift chemists using the proper weighing scales and a specially designed oven, with forced circulation and automatic temperature control. The screened chips are also sampled and tested daily in the laboratory for quality factors. Records are maintained by the operating foremen on the more obvious factors such as operating hours, number of men, number and kind of logs, etc. As an example of the daily graphical records in a typical department, the following items are listed on the wood preparation board or chart.

White fir log scale
Hemlock log scale
Total log scale
Air-dry tons white fir chips produced
Air-dry tons hemlock chips produced
Total air-dry tons chips produced
Feet of logs per A. D. tons of chips
Feet of logs per A. D. ton of slush pulp
Average feet per log
Percentage of outside logs
Total logs cut per day
Number of logs through band mill
Cords—slab wood
Cords—clear wood
Percentage of chips from waste wood
Per cent moisture in barker waste
Per cent moisture in waste—weighted average
Total per cent waste from logs
Percentage of chip screen waste
Percentage of barker waste
Per cent sawdust in chips
Chip dirt count
Average chip length (inches)
Per cent nearness to standard length
Per cent rot in chips
Per cent white fir chipped
Net A. D. tons chips per hour
Gross A. D. tons chips per hour
Average operating hours per day
Band mill hours
Man hours per ton of A. D. chips

During the past five years a number of major changes have been made in the Everett operations. A two-stage bleach plant was installed to take care of the anticipated increased wood dirt from the whole log hydraulic barker and chipper. The original intention was to produce an unbleached pulp grade of the same brightness as regular unbleached pulp but which had been treated with chlorine and hypochlorite to remove the dirt that could not be removed by the new wood preparation method. In Fig. 1 are assembled some data from three different chart room boards, namely; the wood preparation, pulp quality, and power house boards.

In May 1941, the bleach plant or chemical cleaning plant was put into operation and the knot borers were immediately eliminated. This resulted in a decided saving in wood and man-hours. The chip dirt count rose sharply, but the pulp dirt count declined indicating the effectiveness of chemical cleaning. By the beginning of 1943, both the hydraulic barker and whole log chipper were in full operation, with the result that the wood consumption dropped from 1050 to 800 feet of logs per tons of pulp, the man-hours per ton of chips dropped from 0.85 to 0.32, and the chip-dirt count rose from 80 to 350. From May 1941 to April 1942 the mill produced chemically treated pulp with a lower dirt count than the original type of unbleached pulp. From May 1942 until March 1943 it was not possible to use chlorine because of war restrictions, although the pulp was given the regular mechanical treatment in the bleach plant, and the dirt count rose to around 6000. In April 1943 production began on the standard 74 brightness pulp. The bottom chart shows the percentage of fuel purchased from the Lumber Division, the balance is from wood waste. Before the hydraulic barker, chipper, and bleach plant were installed, about 70% of the fuel was produced and 30% purchased; now about 20% of the fuel is produced and 80% purchased; all of which more or less proves the point that we can't have our cake and eat it.

Acid Plant

The primary function of the acid plant is to provide acid of the proper strength and quantity for the subsequent cooking operation. In the hot-acid system such as at Everett, both heat and chemicals are reclaimed or circulated in very substantial amounts, and the higher the acid concentration, the larger will be the circulating load of chemicals. With the hot-acid system involving the use of acid accumulators, the acid plant is intimately tied to the digester operation and the entire spstem must be analyzed as a unit. At Everett, the system consists of the normal Jenssen acid plant, followed by a pressure tower, storage tanks, a low pressure accumulator, a high pressure accumulator, and six digesters having a maximum operating pressure of 150 pounds.

Digester Operation

In the digester operation, the vessels are filled with a definite quantity of chips by weighing the chips over a weightometer. The acid is then pumped into the digesters under pressure until the liquor just goes over the top vent and the pressure is brought up to 110 pounds. With a chip charge of 65.7 wet tons, the acid charge per digester amounts to 37,100 gallons. This corresponds to 4.14 pounds of accumulator acid per pound of air-dry wood. Under these conditions 2160 gallons of cooking acid are required per air-dry ton of slush pulp produced. During the first part of the cook, the digesters are relieving considerable wet relief and side relief to the high pressure accumulator, since the digesters are heated by direct steaming. During the latter part of the cook the digesters are relieving steam and gas to the high pressure header and during the blowdown the relief goes through the low pressure header to the low pressure accumulator. In circulating and reclaiming the heat and chemicals, there is also a substantial quantity of liquid carried back, especially to the high pressure accumulator. There is also some dilution of the acid in process from the packing glands on the pumps at the various stages and the digester circulation. Of the 2160 gallons of cooking acid per ton of slush pulp, 1170 gallons originates from the Jenssen towers and the balance is made up by digester relief, with some dilution from gland leakage.

During the cooking or delignification reactions a rather definite quantity of chemical should be consumed depending upon the cooking conditions. Since the operations are based on a heterogeneous material in wood and since the reactions are not always carried to the same degree of delignification, the sulphur consumption does not follow an absolute stoichiometric proportion. However, the amount of the sulphur actually consumed in the cooking process is usually considered to be around 175 pounds sulphur per air-dry ton of pulp. This amounts to roughly 4.0% on the air-dry wood basis. It is also generally considered that the combined sulphur dioxide is that part of the chemical which is consumed during the

pulping operation, although the combined can be varied over a fair range and the resulting pulp is still quite satisfactory. The above mentioned 4.0% would give a "true combined sulphur dioxide" to wood ratio of 0.08 or a figure of 0.04 as the combined is normally reported. During the blowdown operation the pressure is relieved on the digester to a point to insure good blow conditions. There is always some chemical remaining in the digester at the time of the blow and part of this is recovered during the blowing operation from the blow pit. However, some of the chemical is lost during the blow, and the amount of this material plus the amount consumed by the digestion reactions represents the overall sulphur consumption for the process. A corresponding amount of chemical must be furnished by the raw acid plant to compensate for this consumption. Moreover, this amount of chemical must be carried in a volume of solution which is equal to the difference between the volume of cooking acid and the volume of relief and incidental dilution. To secure the highest strength cooking acid for given conditions of temperature and pressure in the accumulators, the raw acid plant must supply the proper amount of acid with the concentration high enough to make the input quantity of chemical just slightly higher than the consumed chemical. The acid plant must literally cram sulphur dioxide into the storage and accumulator system continuously, so that when equilibrium conditions are attained, a slight surplus will be returning to the new acid plant in the form of overgas from the storage tanks. The entire system operates practically on a continuous basis, although there are some fluctuations in the relief and gas flow at the various stages of the cooking cycle. This presents a problem of non-uniform and incomplete absorption of gas in the eductor and accumulator system, with the result that overgas is returning to the new acid plant even before equilibrium conditions are attained in the accumulators and storage. Aside from the volume of acid and the total quantity of sulphur dioxide carried, the raw acid plant must supply the total quantity of sulphur dioxide in the proper proportion of combined and free. With seasonal fluctuations in water temperature, a rather serious problem is presented in maintaining the correct proportion of combined and free. Lower temperatures favor the formation of the free component and counteract the solubility of the combined chemical, while just the opposite conditions are produced by warmer temperatures.

In a system of the above type, careful control must be exercised in maintaining the proper flow of chemical and liquid throughout the various stages of the system. Temperature and pressure controllers play a predominant role in maintaining the desirable equilibrium conditions. Flow meters are essential in maintaining the proper flow of acid at the various stages and liquid level gages are used to check the flow rates and the quantities of acid in the various stages. The cooking cycle must be standardized, and the cooking speed and spacing must be integrated to the proper acid flow to and between the accumulators. As already noted, a definite quantity of chips is furnished to the digester which gives a definite quantity of acid in the digester when pumped full under high pressure. The digesters are steamed according to definite schedule using a steam flow meter, although the fixed temperature curve is the main controlling factor. Under normal fixed conditions, the cooking time rarely varies more than 10 minutes from an average. The digesters and accumulators are equipped with liquid level recorders and also visual gage glasses for checking. Flowmeters also record the circulation flow in the digesters. Chemical tests are made on the acid throughout all the various stages in the systems. Transometer tests on the cooking acid assist in judging the progress of the cook, and bleachability tests after blowing give a continuous check on gaging the course of subsequent cooks.

Records are maintained on all of the variables which are considered to have even the slightest bearing on the overall operation. These figures are charted in the same manner as described earlier on the wood preparation department. With the charted figures it is easy to see and study the effects of changes in some variables on other factors and on the overall operation. In analyzing the mechanism of the operation it is often advisable to rearrange and recalculate the operating data in a different form. Thus instead of merely showing the chemical tests at the various stages of the process, we can recalculate the figures to show the chemical and liquid flow per unit of time or per unit of production. In Table I there are listed the figures showing the chemical tests on the acid at the various stages of the process and these figures have also been recalculated to show the flow of chemical per unit of time.

TABLE I

	Acid Tests			Acid Flow gallons/ min.	HSO_3/min.		
	F.	C.	T.		F.	C.	T.
Jenssen	3.08	2.10	5.18	236	60.6	41.4	102
Pressure	3.45	2.00	5.45	247	71.1	41.4	112.5
Storage	4.01	1.94	5.95	255	85.4	41.4	126.8
L. P. Accum.	9.39	1.86	11.25	266	208.5	41.4	250
H. P. Accum.	9.55	1.29	10.84	415	330	44.6	375

TABLE II

	Acid per Ton, pulp gallons	SO^2 per Ton Pulp, pound		
		F.	C.	T.
Jenssen	1228	315	215	530
Pressure	1282	369	215	584
Storage	1325	443	215	658
L. P. Accum.	1384	1082	215	1297
H. P. Accum.	2160	1715	232	1947

In Table II, these same figures have been recalculated on a basis of unit pulp production.

The above figures are average values and they indicate the necessity of maintaining the proper uniform flow of acid toward the digester stage and the equivalent counter current return flow of chemical from the digesters. The control of the combined sulphur dioxide of the cooking acid is primarily regulated back at the Jenssen system. However, this combined chemical is diluted in the course of the process from 2.10% to 1.29%. Continuous testing and recording enables the acid plant operator to regulate his initial combined chemical to give the standard cooking acid combined of 1.29%. Very slight changes in the cooking operation have an effect on this figure. Changing the time schedule of the side relief and the amount of the side relief have an effect on the cooking acid combined chemical. Chip packing or the digester charge effects the amount of cooking acid and also the amount of side relief both of which in turn will effect the combined concentration. These are but a few of the many factors, conditions, and variables which must be observed and controlled, and the availability of complete and lucid records is of invaluable assistance in the proper manipulation of these operations.

Other Applications

The foregoing discussion is but a brief outline of the general practice and philosophy of making continuous measurements on the mechanism of pulping

operations and the proper recording and preservation of knowledge. The wood preparation and the digester operations were used as typical examples of the general methods of securing and recording the operating data, and of the necessity of having complete records for the proper plant operation. The same general methods and practices apply to the other departments of a modern plant, namely the power house, the screen rooms, the bleach plant, filter plant, and machine room, and others. Flowmeters, temperature and pressure recorders and controllers are used extensively in the power plant as well as electrical instruments. In the screening operations, consistency controllers, liquid level recorders and controllers, and manual consistency testing play a predominant role. Manual testing methods and chemical metering instruments are used extensively in the bleaching operations. At the Everett plant, automatic timing devices have been successfully used on the bleaching engines of the various stages to insure smooth operation and uniform treatment of stock. Complete records are maintained for each department, and the graphical records give a convenient and yet very comprehensive picture of all the pertinent operating variables, and of the quality factors of the material in process and the final products.

Comprehensive operating records represent an accumulation of basic knowledge of our plant operation. If the measurements and data are collected in a true scientific manner, guesswork, and the whims and fancies of even the technical personnel are eliminated, and sound facts and figures become the basis of operating methods and plant direction. The availability of up-to-the-minute data along with the knowledge of our past records relieves the supervisors of a considerable burden of routine effort and their time and energy can be directed to more creative purposes. We can apply the old maxim of "know thyself" to the pulp and paper industry and we can continue to observe and measure causes and effects, to record observations and thus gain a fuller knowledge and understanding of its operations.

Kalamazoo TAPPI Discusses Quality Control

The Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry met at the Columbia Hotel, Kalamazoo, Mich., on Thursday evening, October 3rd. About 70 attended.

The program was in charge of Harris Ware of the Hercules Powder Company. C. A. Bicking of the Hercules Powder Company, Wilmington, Del., presented a paper on "Quality Control for Industry."

A new plan for meetings in Kalamazoo was initiated at this meeting. In addition to the presentation of a technical paper an exhibit was held. This consisted of specimen copies of the test records from the various mills in the Kalamazoo Valley. These showed how operation performance is checked from day to day and hour to hour. Mr. Bicking showed how these data sheets can be used as a basis for improvement of processes and for research into better and closer control, as well as for analysis of certain papermaking variables.

Leon H. Mimms, Chairman of the program committee offered those present two pamphlets bearing on the subject discussed. These were the ASTM Manual on Presentation of Data and the ASA Control Chart Method of Controlling Quality During Production.

The Kalamazoo Valley Section is to be congratulated for its special effort to improve its meetings. An increase in attendance was the immediate response. Well planned programs for the year ahead are being developed by the program committee, consisting of Leon Mimms, Martin Galbreath, W. C. Cassell, Victor Burstein, Harley Nelson and Harris Ware. R. T. Mashburn of the Hercules Powder Company is the new chairman and Paul Bartholemew of the Hawthorne Paper Company is Seccretary.

Those present included: A. C. Aiken, P. R. Anderson, P. D. Applegate, Ralph Atkins, Ray Barton, Charles Bicking, V. Burstein, R. J. Casey, C. W. Cassell, J. W. Cole, C. T. Colgnen, J. Dickson, James H. Fritz, M. Galbreath, C. E. Gardner, Jack Gillespie, M. J. Grandois, W. L. Halnon, Frank Hamilton, W. E. Hamilton, W. F. Hathaway, W. J. Higbie, R. H. Hurst, M. W. Kane, Harrison Kindig, S. Kukolich, L. O. Lake, Charles Lillie, Bob Mashburn, Lee Mimms, D. W. McArthur, H. Nendorf, Charles Olmstead, J. L. Powell, J. E. Shade, C. A. Skinner, J. Smith, Marshall Ruts, J. L. Thompson, Douglas Tool, F. E. Toonder, H. Ware, F. Whittington, M. P. Wingate, J. A. Wise, W. F. Wolfe.

Western New York TAPPI Hears Van den Akker

The Western New York Group of the TAPPI Empire State Section met at the Prospect House, Niagara Falls, N. Y. on Wednesday evening, October 9th. A. H. Nadelman of the International Paper Company presided as chairman. About 100 attended.

The meeting was held jointly with the Niagara Chapter of the C. P. P. A. Technical Section of which William Orchard of the Ontario Paper Company is chairman. John Campbell, consulting engineer and B. J. Staneslow of Moore Business Forms, Inc., were congratulated on being elected chairman and treasurer respectively of the Empire State Section.

Edwin F. Burns, chief engineer of the International Paper Company and a member of the TAPPI national executive committee, Fred Van Lew, manager of the Kimberly-Clark Corporation mill in Niagara Falls, and R. G. Macdonald, national secretary-treasurer of the Technical Association of the Pulp and Paper Industry were introduced. Mr. Macdonald gave a report on the proceedings of the recent fall meetings of the Association held at Detroit, Mich., and Milwaukee, Wis., as well as the section taken at the recent meeting of the executive committee.

J. A. Van den Akker, physicist of the Institute of Paper Chemistry, Appleton, Wis., was the principal speaker and gave an informal talk on "Instrumentation in the Paper Industry." Dr. Van den Akker devoted his consideration to the background philosophy of testing rather than to detailed methods and pointed out that it is difficult to define the property that is being measured in many cases. There is some confusion in this regard between the identification of fundamental properties of paper and its use requirements.

In some cases indirect measurements need to be taken to evaluate certain properties. This is illustrated by the Bekk smoothness test which measures the air leakage between the surface of a sheet and a flat metal disk.

Some measurements are complicated because they measure properties in addition to those under consideration. For example the dielectric test for paper moisture is influenced by the presence of dyestuffs, electrolytes, etc., contained in the paper.

In container testing, Dr. Van den Akker indicated that it is futile to come to conclusions on an ordinary use test based on examining loaded containers before

and after a long rail shipment since the history of the trip is usually unknown. To be effective such a procedure would necessitate an observer going along with the shipment to log all of its experiences, noting the hazards met, analyzing the hazards and then developing performance tests based on this hazard analysis.

Printability tests are difficult to establish because of the many variables present. A satisfactory proof press needs to be developed and results therefrom related to many other properties and then subjected to statistical analysis, a very complicated procedure.

Function of a Technical Department Subject of Lake States TAPPI Meeting

The Lake States Section of TAPPI discussed the organization and functions of technical departments at the meeting held October 9, 1946 at the American Legion Club House in Appleton, Wisconsin. The program was led by John Strange of The Institute of Paper Chemistry.

Mr. John Catlin of the Kimberly-Clark Corp. spoke on the organization of a large mill group in which there is a central department and also separate units in each of the mills. The mill technical department is divided into a problem group and the control laboratory; the first working on mill problems and research and the second on control both of which are under the supervision of a technical superintendent.

In a small mill which has a small staff, one technical department assumes both development and control functions. Mr. H. P. Dixon described the organization of the Fox River Paper Company. Because of the diversity of occupations it is necessary that the personnel of the technical department be able to get along with people.

Mr. W. H. Graebner of the Marathon Corp. in discussing the relationship of the technical department and management stressed the need for an adequate and definite delegation of responsibility and the realization of each others functions. The technical man must understand and practice good salesmanship if he is to assume his rightful place in the organization. He must also understand the value of a clear and lucid report prepared in such language that it does not require a technical interpretation.

In regard to the relationship of the technical department to production, the organization of the department can not be rigid; it must be flexible to handle research, mill and quality control, and sales service. Mr. G. K. Dickerman, Consolidated Water Power and Paper Co. emphasized that the technical department is a service department for production and that the responsibility for the quality of the product rests with production.

M. L. Downs of the Thilmany Pulp and Paper Co. spoke on the relationship with the sales department. When there are no converted grades, then there is not much need for cooperation but when the product is semi- or totally converted the technical department must work with sales to obtain the desired results.

Mr. Strange indicated that there are 70,000 trained men with 17 out of every 1000 chemists and 26 of 1000 chemical engineers are already in paper and allied trades.

The following attended the dinner and the meeting of the section.

Adrian, A. P., Allard, F. J., Anderson, Robert, Andrews, Leslie H., Appling, J. W., Atchinson, Joe, Auchter, M. J., Ayers, L. R.

Baker, Mulford C., Bard, John W., Beaman, Arnold, Behringer, Jack C., Brabender, George J., Bretl, Martin F., Bretthauer, J., Broehm, L. J., Browning, B. L., Buchanan, M. A., Byfield, Abbott.

Carroll, Glenn, Catlin, J. B., Catlin, Tom, Chilson, Warren A., Cobb, R. V., Cogger, W. L., Collins, T., Crain, R. C., Crandall, H. C., Cundy, Paul F.

Davis, D. W., Delong, R. F., Dickerman, G. K., Dinnius, J., Dixson, H. P., Downs, M. L., Draper, W. P., Enderlein, G. F., Elias, R. T.

Fannon, W. A., Faulkender, C. R., Fitzgerald, L. E., Forcey, George W., Forman, L. V., Frederick, H. V., Giese, W. B., Graebener, W. H., Graff, J.

Haberman, Joseph P., Hagerla, D. E., Hammer, Victor C., Handeyside, John A., Hansen, Paul B., Hanson, John A., Hanson, Fred S., Hartwig, Hans, Hayden, R. S., Heald, A. M., Hendrich, Walter G., Henschel, R. W., Hillier, H. W., Hoffman, J., Hollands, R. N., Hodgkins, W., Howells, T. A., Ingalls, E. G., Jankowski, A. F., Johnson, L. S., Jorgensen, Leif, Joseph, Vern L., Jones, P.

Kennedy, W. S., Kjellgren, A. R., Klinger, L. L., Koon, C. M., Kottwitz, Frank, Krueger, O. J., Kryszak, Joseph J., Kuemmerling, Otto.

Lausman, H. J., Laux, Alex, Lefevre, Milton A., Lewenstein, A., Lundy, R. B., Luth, A. J., MacGonagle, F. R., Maloney, John, Malcove, N. L., Martone, Thomas A. Sr., Matchuk, K., May, A., McIntyre, James W., Metz, Peter J. Jr., Moe, Carl, Moss, L. A., Martin, W. C., Mitchell, W. A. J., Niemeyer, D. D., Noble, Carl, Norseen, H. A., Olson, Kermit E., Orlowski, Chester, E.

Parsons, S. R., Parvin, Cecil C., Pascoe, T. A., Pavlick, F. G., Peckham, John R., Phillips, Alfred, Pierce, J., Pigman, W. W., Plummer, A. W., Pollock, S. W., Purdy, E. R., Pusey, W. B.

Rasmussen, E. W., Ratleff, F., Rhode, John A., Rowe, H., Reese, C. H., Radsch, R. M., Rezba, J.

Sabatke, L. S., Sage, Robert S., Schacht. John R., Schmitt, Milton G., Sears, G. R., Sebore, L., Shimp Joseph W., Simerl, L. E., Smith, L., Stafford, I. J., Steele, Clyde W. Stillings, R. A., Strange, John G., Sullivan, Sutherland, L. M., Swiston, C.

Thomas, E. E., Tourangeau, R., Truesdale, Vernon H., Turk, J. G., Utschig, W., Van den Boom, C., Van Kirk, Robert W., Vanderhei, Harold, Verhagen, W. H., Vickman, E. J., Vogt, R., Voigtman, E. H., Voss, H. L.

Wagner, C. L., Wells, J. D., Wenberg, H. B., West, P. H., West, C. J. Jr., Woods, L. C., Wink, K., Wink, W., Wendshuh, H. L.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

John R. Schacht, Assistant Manager, Special Products Dept., Rohm & Haas Co., Philadelphia, Pennsylvania, a 1934 graduate of Temple University.

Paul J. Shirley, Jr., Technical Sales Service, Penick & Ford, Ltd., Inc., New York, N. Y., a 1938 graduate of Massachusetts Institute of Technology.

Hans Tschudi, General Manager, H. Weidmann, Ltd., Rapperswil, St. Gall, Switzerland, a 1925 graduate of Grenoble University.

Albert C. Zettlemoyer, Associate Professor, Chemistry Dept., Lehigh University, a 1941 graduate of Massachusetts Institute of Technology.

Samuel Gavenda, formerly of the Army, is now paper buyer for Remington-Rand Inc., New York, N. Y.

Paper and Paper Stock Imports At New York and Other Ports

NEW YORK IMPORTS

WEEK ENDING OCTOBER 12, 1946

SUMMARY

Newsprint	2,153 rolls
Wallpaper	143 pcls., 6 cs.
Paperhangings	28 bls., 2 cs.
Litho Paper	2 cs.
Kraft Paper	9 rolls
Filter Paper	45 cs.
Drawing Paper	4 cs.
Wrapping Paper	8 cs.
Miscellaneous Paper	1 cs.

NEWSPRINT

H. G. Craig Co., G.T.D., Donnacona, 360 rolls.

International Paper Co., International No. 1, Gatineau, 316 rolls.

H. G. Craig Co., G.D.D., Donnacona, 370 rolls.

H. G. Craig Co., Newscarrier, Donnacona, 378 rolls.

H. G. Craig Co., Donpaco, Donnacona, 302 rolls.

H. G. Craig Co., A.C.D., Donnacona, 427 rolls.

WALLPAPER

S. K. Lonegren, Mormacwave, Gothenburg, 143 pcls.

Rohner Gehrig & Co., Aldebaran, Havre, 6 cs.

PAPERHANGINGS

W. H. S. Lloyd & Co., Ferdinando Gorges, London, 28 bls., 2 cs.

LITHO PAPER

Arnhold & Co., Inc., San Mateo Victory, Hong Kong, 2 cs.

KRAFT PAPER

St. Regis Paper Co., Noordam, Rotterdam, 9 rolls.

FILTER PAPER

Stevens Nelson Paper Corp., Ferdinando Gorges, London, 1 cs.

H. Reeve Angel & Co., Inc., Ferdinando Gorges, London, 21 cs.

J. J. Gavin Co., Ferdinando Gorges, London, 7 cs. (unsensitized).

(———), Ferdinando Gorges, London, 16 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Ferdinando Gorges, London, 4 cs.

WRAPPING PAPER

Meadows Wye & Co., Ferdinando Gorges, London, 8 cs. (waxed).

MISCELLANEOUS PAPER

H. Morgan & Co., Aldebaran, Havre, 1 cs.

RAGS, BAGGING, ETC.

W. Steck & Co., Excelsior, Alexandria, 90 bls. hessian rags.

Riverside Mills, Excelsior, Alexandria, 23 bls. cotton waste.

A. Bloch & Co., Excelsior, Alexandria, 233 bls. light hessian bagging.

Rich & Stone, Explorer, Genoa, 3 bls. rags.

A. W. Fenton Co., Explorer, Genoa, 189 bls. rags.

Railway Supply & Manufacturing Co., Explorer, Leghorn, 35 bls. cotton thread waste.

Cecil Kutz, Buenos Aires, Recife, 48 bls. cotton pickers; 318 bls. cotton picker waste.

Riverside Mills, San Mateo Victory, Shanghai, 345 bls. cotton waste.

D. M. Hicks, Inc., San Mateo Victory, Shanghai, 2 bls. rags.

N. Schwab & Sons, Inc., San Mateo Victory, Shanghai, 113 bls. cotton waste.

Irving Trust Co., Minasloide, Rio de Janiero, 88 bls. cotton picker waste; 63 bls. cotton fly waste.

Cowa Co., Minasloide, Rio de Janiero, 17 bls. cotton picker waste.

American Cotton Products Co., Minasloide, Rio de Janiero, 62 bls. cotton picker waste.

Schimmel Trading Corp., Minasloide, Rio de Janiero, 52 bls. cotton waste.

Riverside Mills, Minasloide, 107 bls. cotton waste.

New England Waste Co., Minasloide, Rio de Janiero, 28 bls. cotton waste pickers.

(———), Minasloide, Fortaleza, 329 bls. cotton picker waste.

Amicale Trading Co., Inc., Hutchinson T. Cone, Santos, 31 bls. thread-waste; 5 bls. rags.

American Cotton Products Co., Hutchinson T. Cone, Santos, 81 bls. cotton waste.

E. J. Keller Co., Inc., Noordam, Antwerp, 203 bls. old bagging.

Tradesmans National Bank Trust Co., Ferdinando Gorges, London, 274 bls. rags.

John Manning Co., Inc., Ferdinando Gorges, London, 18 bls. new drab cotton canvas; 9 bls. old drab webbing.

American Express Co., Ferdinando Gorges, London, 19 bls. new linen threads.

GLUESTOCK, ETC.

J. Gorvers, Santa Barbara, Callao, 10 bls. gluestock.

J. Gorvers, Lotta Dan, Buenaventura, 53 bls. hideclippings.

1st National Bank of Boston, Minasloide, Rio de Janiero, 88 bls. gluestock.

J. Gorvers, Cape Matapan, Barranquilla, 637 rolls gluestock.

CASEIN

E. Lang, Montreal City, Buenos Aires, 2498 bags casein.

BOSTON IMPORTS

WEEK ENDING OCTOBER 12, 1946

Amtorg Trading Corp., Marshall Govorov, Leningrad, 4109 bls. cotton waste; 3908 bls. cotton linters; 668 bls. cotton cuttings.

Atlantic Gelatine Co., Inc., West Linn Victory, Rotterdam, 45 bls. picker waste.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 12, 1946

Castle & Overton, Inc., West Linn Victory, Antwerp, 100 bls. cotton rags.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 12, 1946

Pulp Specialties, Inc., Mormacwave, Gothenburg, 384 bls. bleached sulphate pulp, 53 tons.

Perkins Goodwin & Co., Mormacwave, Gothenburg, 254 bls. unbleached sulphate pulp, 50 tons.

Bankers Trust Co., Mormacwave, Gothenburg, 22 bls. bleached sulphate pulp, 3 tons.

Bird & Son Elects Miss Smith Assistant Secretary

EAST WALPOLE, Mass.—Election of Miss Welthea M. Smith as assistant secretary of the corporation has been reported by Bird & Son, Inc. This marks the second time that a woman has held an elective position in the firm since it was founded one hundred fifty years ago. Miss Smith, who has been with the Bird organization since 1920, fills the vacancy recently created when Wesley C. Ahlgren was elected secretary treasurer.

Miss Smith has served the company as private secretary, first to the manufacturing manager and later to the treasurer. Born in Poughkeepsie, N. Y. she is a graduate of New Paltz Normal School and Eastman Business College.

After several years of teaching school at Hyde Park and Beacon, N. Y., and Scranton, Pa., Miss Smith entered the Quartermaster Corps of the War Department in Washington, where she served for the duration of World War I.

National Gypsum Names Obenchain

BUFFALO, N. Y.—Edgar T. Obenchain has been appointed director of purchases of the National Gypsum Company, succeeding the late Harold Drake. Mr. Obenchain formerly was with the U. S. Gypsum Company. During World War II, he was assistant director of the Material Procurement Office, Navy Bureau of Ships.

Week's Record of Trends in The Pulp and Paper Market

Demand for paper and paperboard continues to outstrip supply by a wide margin. While there is little hope for bringing supply and demand into balance this year, the 2,000,000 to 3,000,000 ton added capacity scheduled for 1947 and 1948 will no doubt help create a more normal situation in the pulp and paper market. Despite the currently tight situation of almost all categories of paper, the trade is concerned with expansion programs underway which are expected to raise the industry's capacity by 1950 to fully 30 percent above prewar. With this in mind, plus the fact that the use of paper has expanded into many fields formerly dominated by other materials, it is easy to understand why certain quarters regard domestic demand as abnormal and look to foreign markets to insure long range profits.

It should be remembered, however, that during the war, due to quotas, insufficient labor and raw materials, paper and paperboard production leveled off, while industrial production gained about 50 percent. The restricted wartime output, all of which was under government allocations, should mean that postwar paper production will be maintained at a high level should there be a sharp curtailment in general manufacturing activity. Some of the new markets for paper will be lost, but quite a number should prove to be permanent. Nevertheless, it is quite natural for the paper industry, expecting domestic paper requirements to flatten out, to show some anxiety in the protection of its contemplated investments in expansions. Too many manufacturers recall the fact that for 20 years before the war many mills whose sales were restricted to the home market operated at between 58 and 80 percent of capacity, a rate barely sufficient to carry overhead costs.

Many manufacturers are afraid that they are unable to meet foreign competition because of the rapidly rising production costs in this country. The fact is that production costs abroad are also increasing as the result of war damage to many mills, dislocation of foreign economies and manpower shortages. Book paper manufacturers will find large export outlets during the next few years because of the fact that large prewar suppliers, particularly Germany and Japan, will not reenter the picture for some time to come. Development of improved packaging techniques should also benefit American manufacturers seeking export outlets. There is no doubt that demands for paper and paper products in many foreign countries have increased far above prewar levels, and purchasing power, especially in Latin America, has risen as it has in the United States. The paper industry's perennial problem has been the development of markets, thus the trade as a whole is urged by export-minded manufacturers and foreign traders alike to regard favorably the potential outlet, of some part of their production through export channels.

The index of general business activity for the week ended October 5 fell to 132.7 from 133.8 in the previous week, compared with 116.7 for the corresponding week in 1945. The index of paperboard production rose to 156.2 from 155.3 in the previous week, compared with 139.7 for the corresponding week in 1945.

Paper production for the week ended October 5 was estimated at 107.2 percent, compared with 106.6 for the preceding week, with 94.1 for the corresponding week in 1945, with 93.4 for 1944, with 90.9 for 1943, and with 38.0 percent for the corresponding week in 1942.

Paperboard production for the week ended October 5 was 100.0 percent of capacity, compared with 101.0 percent for the preceding week, with 95.0 for the corresponding week in 1945, with 96.0 for 1944, with 94.0 for 1943, and with 80.0 percent for the corresponding week in 1942.

Wood Pulp

Estimates of pulp inventories at domestic paper and pulp mills by the American Paper and Pulp Association, as of September 1, reads 495,000 tons, with another 50,000 tons on dock or in transit. A similar estimate, as of July 31, showed a total of 532,000 tons, also with an additional 50,000 tons on dock or in transit. Swedish pulp mill operations in June were at 56 percent of capacity, with 233,000 tons of pulp on hand at the end of July.

Mills are reported using more rags and waste paper to stretch their pulp supplies. Some mills are reported favoring 50 percent rag content paper to the 25 percent rag content paper as a means of conserving their pulp inventories. Meanwhile, at a recent meeting in Chicago, pulp consumers from all over the country agreed to make a collective and independent effort to achieve decontrol of pulp prices.

Rags

Demand for cotton cuttings continues in strong position while woodpulp remains short. Prices are firm at full ceiling levels in sales to mills. Paper manufacturers are eager buyers for current needs and are making an effort to build up inventories. Demand takes in practically every grade of cutting with the possible exception of certain silk or rayon items.

Old cotton rags are in steady demand with most offerings taken up. Thirds and blues are in good call at ceilings. Old whites, roofing rags and some foreign dark cuttings were freely absorbed. Foreign roofing rag quotations have eased to $65 and $70 dock.

Old Rope and Bagging

Old rope market is reported steady, but mills are still particular about quality. Ceilings of 5.75c for Manila or 4.75c for sisal are only paid for No. 1 grades. Soft jute continues around 4.50c to 5.50c.

Firmness is noted in the bagging market. Gunny is reported as high as $5 delivered mills, although offerings at $4.25 shipping point have been refused in the South. Australian wool pouches are particularly strong at $4.65 to mills. No. 1 scrap burlap continues $4.25 to $4.75 delivered to mills.

Waste Paper

Corrugated has eased up in some quarters, but any localized surplus is soon taken up by outside mills looking for news, mixed and corrugated. Folded news is in strong position. Most grades are firm at top price levels.

Uncertainties in pulp supply remain an influencing factor in upgrading of waste paper. High grades are desperately wanted by fine writing paper mills as a substitute for bleached pulp.

Pulp Imports Near Half-Million Tons

NEW YORK—Imports of wood pulp into the United States from overseas totaled 18,789 short tons during the week ended October 3, 1946, the Forest Products Section, Office of Domestic Commerce, Department of Commerce, reported this week. The aggregate quantity of wood pulp imported from overseas sources from January 4 through October 3 amounts to 461,267 short tons. Of this total, 382,880 tons were imported from Sweden as against 76,989 tons from Finland and 1,398 tons from Denmark. In the week ending October 3, 13,661 tons of wood pulp were imported from Sweden while 5,128 tons came from Finland.

Concrete and Mortar Shrinkage Discussed in Practical Booklet

Shrinkage of concrete and mortar—its important influence on durability and serviceability, the principal factors affecting it, and its control and elimination—are discussed in the 34-page booklet, "The Action of Embeco in Concrete and Mortars". Explaining the principle of specially prepared metallic aggregate in controlling shrinkage, this booklet describes the use of Embeco for machinery and heavy equipment grouting, cement gun work, and patching and repairing concrete. Charts, graphs and useful technical data add to the practical value of this booklet. A copy may be obtained from The Master Builders Co., 7016 Euclid Avenue, Cleveland 3, Ohio.

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, October 16, 1946.

BLANC FIXE—Demand continues active as raw materials remain tight. Pulp is currently quoted at $40 per ton, in barrels, car lots, at works; the powder is currently quoted at $60 per ton, car lots, f.o.b. works.

BLEACHING POWDER—Supplies are reported adequate to meet demand, with shipments temporarily delayed due to drum shortage. Quotations are unchanged. Prices on bleaching powder range from $2.50 to $3.10 per 100 pounds, in drums, car lots at works.

CASEIN—Current prices on processed acid-precipitated casein are reported at 48 to 49 cents per pound for domestic grades, and 45 cents per pound for Argentine grades; f.o.b. shipping point, with quality not specified at the present time.

CAUSTIC SODA—Supplies tightest ever as market remains critical. Shipments are behind schedule. Cutback production further reduces stock. Solid caustic soda is quoted at $2.30 per 100 pounds; flaked and ground is quoted at $2.70 to $2.95 per 100 pounds. All prices car lots.

CHINA CLAY—Supplies are becoming tighter as demand continues to increase. Quotations remain unchanged. Domestic filler clay is currently quoted at from $8.50 to $9 per ton; coating clay is quoted at from $12 to $22 per ton, at mine. Imported clay is quoted at from $22 to $25 per long ton, ship side. All prices quoted in car lots.

CHLORINE — Demand continues to exceed output, market tight, stocks low. Tank cars and steel container situation slow shipments. Quotations unchanged. Chlorine is currently quoted at $2.00 to $2.25 per 100 pounds, in single unit tank cars, f.o.b. works.

ROSIN—Gum rosin in drums, per 100 pounds net, in yard, New York; B, $8.30; D, $8.30; E, $8.83; F, $9.13; G, H, I, K, M, N and WG, $9.22; WW, $9.25. All prices in car lots, rosin in bags, 5c less.

SALT CAKE — Demand increasing with supplies showing some improvement. Prices remain unchanged. Domestic salt cake is quoted at $15 per ton, in bulk. Chrome salt cake is quoted at $16 per ton. All prices in car lots, f.o.b. shipping point.

SODA ASH—Supplies continue short, demand active, previous orders filled. Export inquiry very heavy. Quotations continue unchanged. Current prices, car lots, per 100 pounds, are as follows: in bulk, $.95; in paper bags. $1.05; and in barrels, $1.35.

STARCH—Supplies are showing steady improvement. Previous orders filled. Starch prices continue unchanged. The pearl grade is quoted at $5.87 per 100 pounds; powdered starch at $6.02 per 100 pounds; both prices in bags, car lots, f.o.b. Chicago.

SULPHATE OF ALUMINA—Demand active, supply fair. Quotations continue unchanged. The commercial grades are quoted at from $1.15 to $1.20 per 100 pounds, in bags, car lots, f.o.b. works. The iron free is currently quoted at $1.75 to $2.00 per 100 pounds, in bags, at works.

SULPHUR—Strong seasonal demand is reported with stocks plentiful. Annual contracts are quoted at $16 per long ton, f.o.b. mines; the price f.o.b. at Gulf Ports is $17.50 per long ton. Prices in car lots. Sulphur prices decontrolled October 4.

TALC—Domestic and French grades are moving in fair volume with prices steady. Domestic grades are currently quoted at from $16 to $30 per ton at mines; Canadian at $24 to $30 per ton. All prices on car lots.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March, 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

Standard News, per ton—

Roll, contract	$84.00	@	—
Sheets	93.00	@	—

Kraft—per cwt.—Carload Quantities Zone A, Delivered

Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard bag	*4.75	"	—

* Prices for Standard Wrapping are for 40 lb. base weight; for Standard Bag for 30 lb base weight.

Tissues—Per Ream—Carlots

White No. 1	1.22½	"	—
White No. 1 M. G.	1.20	"	—
White No. 1½	1.10	"	—
White No. 2	1.00	"	—
Anti-Tarnish M.F.	1.30	"	—
Colored	—	"	—
Kraft	1.15	"	—
Manila	1.00	"	—

Toilet—1 M. Sheets—Per Case

Unbleached	5.50	"	—
Bleached	6.50	"	—
Unbl. Toilet, 1 M.	5.35	"	—
Bleached Toilet	—	"	—

Paper Towels, Per Case—

Unbleached, Jr.	2.45	"	—
Bleached, Jr.	3.35	"	—

Manila—per cwt.—C. l. f. a.

No. 1 Jute	11.25	@	—
No. 1 Manila 35 lb.	6.00	"	7.00

Boards, per ton—

News	*$8.00	@	—
Chip	*$8.00	@	—
Srl. Mla. Ll. Chip	*67.00	@	—
White Uat. Coated	*81.00	@	—
Kraft Liners 50 lb.	*74.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices, all deliveries in Zone 1:

Rag Content Bonds and Ledgers—White, Assorted Items

	Bonds	Ledgers
100% Rag Ext. No. 1	$39.75@$46.75	$40.90@$48.00
100% Rag.	32.85 " 38.50	34.00 " 40.00
85% Rag	.... "	30.55 " 38.75
75% Rag	24.30 " 28.50	24.45 " 30.00
65% Rag	.... "	.... " ....
50% Rag	20.05 " 24.50	21.25 " 25.75
25% Rag	17.85 " 21.75	19.00 " 23.25

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers.. White, Assorted Items

	Bonds	Ledgers
No. 1	$12.00@$14.50	$13.15@$16.00
No. 2	11.25 " 13.75	12.25 " 15.00
No. 3	.... "	.... " ....
No. 4	10.60 " 13.00	11.75 " 14.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper

No. 1 Glossy Coated	$14.70	@$16.75
No. 2 Glossy Coated	13.75 "	15.90
No. 3 Glossy Coated	13.20 "	16.00
No. 4 Glossy Coated	12.80 "	14.50
No. 1 Antique (Watermarked)	11.35 "	12.75
No. 2 Offset	10.65 "	12.25
A Grade E. F.	10.60 "	12.00
A Grade S. & S. C.	11.00 "	12.50
B Grade E. F.	10.30 "	11.75
B Grade S. C.	10.70 "	12.25
C Grade E. F.	10.00 "	11.50
C Grade S. C.	10.40 "	12.00
D Grade E. F.	9.70 "	11.00
D Grade S. & S. C.	10.10 "	11.50

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers' Prices, Less Freight. Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$103.50
Unbl. Softwood Sulphite	90.00
Bl. Hardwood Sulphite	100.50
Unbl. Hardwood Sulphite	87.50
N. Bleached Sulphate	103.50
S. Bleached Sulphate	97.00
N. Semi-Bleached Sulphate	98.00
S. Semi-Bleached Sulphate	91.50
N. Unbl. Sulphate	83.50
S. Unbl. Sulphate	76.50
Bleached Soda	93.50
Unbleached Soda	88.00
Groundwood	64.00
Ground—Machine Dried	67.00
Sulphite Screenings	50.00
Sulphate Screenings	44.00
Groundwood Screenings	37.50
N. Unbl. Sulphate Siderums	83.50
S. Unbl. Sulphate Siderums	76.50
Standard Newsprint Siderums	64.00

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$12.50
Lake Central	12.50
Southern	15.00
West Coast (in area)	9.50
West Coast (out area)	15.50

	50%-80% Air Dry Weight
Northeast	$10.50
Lake Central	10.50
Southern	13.00
West Coast (in area)	8.00
West Coast (out area)	14.00

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$7.50
Lake Central	7.50
Southern	10.00
West Coast (in area)	4.50
West Coast (out area)	12.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices.

Domestic Rags

New Rags

(Nominal Prices Delivered to Mill + 5% Brokerage)

Shirt Cuttings—New White, No. 1	7.25 @	Nominal
Silesias No. 1	5.75 "	"
New Unbleached	7.50 "	"
Blue Overall	5.50 "	"
Fancy	3.50 "	"
Washables	3.00 "	"
Bleached Khaki Cutting	4.25 "	"
Unbleached Khaki Cuttings	3.50 "	"

Old Rags

White, No. 1—			
Repacked	3.80	●	Nominal
Miscellaneous	3.20	"	"
White, No. 2—			
Repacked	2.90	"	"
Miscellaneous	2.65	"	"
Thirds and Blues—			
Repacked	2.20	"	"
Miscellaneous	1.30	"	"
Roofing Rags—			
No. 1	1.55	"	"
No. 2	1.45	"	"
No. 3 (bagging)	1.35	"	"
No. 4	1.35	"	"
No. 5A	1.35	"	"
Old Manila Rope	5.75	"	"

Foreign Rags

(All Prices Nominal)

New Rags

New Dark Cuttings	6.00	●	Nominal
New Mixed Cuttings	6.50	"	"
New Light Silesias	5.75	"	"
Light Flannelettes	5.75	"	"
New White Cuttings	12.00-14.00		
New Light Oxfords			Nominal
New Light Prints	8.00-10.00		

Old Rags

No. 1 White Linens	8.50	●	Nominal
No. 2 White Linens	7.50	"	"
No. 3 White Linens	Nominal		
No. 4 White Linens	3.25	●	Nominal
No. 1 White Cotton	4.75	"	"
No. 2 White Cotton	3.75	"	"
No. 3 White Cotton	3.00	"	"
No. 4 White Cotton	2.20	"	"
Extra Light Prints	2.40	"	"
Ord. Light Prints	5.50	"	"
Med. Light Prints	4.75	"	"
Dutch Blue Cottons	Nominal		
French Blue Linens	Nominal		
Checks and Blues	4.00	"	"
Linsey Garments	4.00	"	"
Dark Cottons	3.60	"	"
Old Shopperies	3.35	"	"
New Shopperies	3.50	"	"
French Blues	Nominal		

BAGGING

(Prices to Mill, f.o.b. N. Y.)

Gunny No. 1—			
Foreign	4.00	●	Nominal
Domestic	3.30	"	"
Wool Tares, light	4.00-4.75		
Wool Tares, heavy	4.50	●	Nominal
Bright Bagging	3.50	"	"
Manila Rope—			
Foreign	Nominal		
Domestic	5.75	●	Nominal
Jute Strings	4.50	"	"
No. 1 Sisal Strings	3.00	"	"
Mixed Strings	1.50	"	"

Waste Paper

Nominal Prices to Mills

(Dollars Per Ton)

F.o.b. New York, Baled

No. 1 Hard White Envelope Cuts, one cut	$67.50	●	—
No. 1 Hard White Envelope Cuts	62.50	"	—
No. 1 Hard White Shavings, unruled	57.50	"	—
No. 1 Hard White Shavings, ruled	50.00	"	—
Soft White Shavings, one cut	57.50	"	—
No. 1 Soft White Shavings	50.00	"	—
Soft White Shavings, Misc.	43.00	"	—
No. 1 Fly Leaf Shavings	33.50	"	—
No. 2 Fly Leaf Shavings	22.50	"	—
No. 1 Groundwood Fly Leaf Shavings	25.00	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	18.50	"	—
Mixed Colored Shavings	15.50	"	—
Mixed Groundwood Colored Shavings	18.00	"	—
Overissue Magazines	33.50	"	—
No. 1 Heavy Books & Magazines	38.50	"	—
Mixed Books	22.00	"	—
No. 1 White Ledger	46.00	"	—
No. 2 Mixed Ledger, colored	40.00	"	—
New Manila Envelope Cuttings, one cut	57.50	"	—
New Manila Envelope Cuttings	53.00	"	—
Extra Manilas	39.00	"	—
Mixed Kraft, Env. & Bag Cuttings	55.00	"	—
Kraft Envelope Cuttings	65.00	"	—
Triple Sorted, No. 1 Brown Soft Kraft	50.00	"	—
New 100% Kraft Corrugated Cuttings	45.00	"	—
No. 1 Assorted Old Kraft	35.00	"	—
New Jute Corrugated Cuttings	18.50	"	—
Old 100% Kraft Corrugated Containers	35.00	"	—
Box Board Cuttings	14.50	"	—
White Blank News	33.00	"	—
Overissue News	22.00	"	—
No. 1 News	20.00	"	—
No. 1 Mixed Paper	19.00	"	—
Old Corrugated	28.00	"	—
Mill Wrappers	22.00	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.26	●	—
White Hemp	.26	"	—
Fine Polished—			
Fine India	.31	"	—
Unpolished—			
Box	.20¼	"	—
Paper Makers	.20	"	—
Tube Rope	.22	"	—
Wall Paper	.23½	"	—
Wrapping	.26	"	—
Soft Fiber Rope	.22	"	—
Cotton	.28	"	—

(Hard Fiber)

Medium Java	.23	"	—
Mex. Sisal	.21	"	—
Manila	.33	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill)

Shirt Cuttings—	
New White No. 1	.07¾
New White No. 2	.05¾
Light Silesias	.05¾
Black Silesias, soft	.03¾
New Unbleached	.07½
Washable Prints	.04¾
Washable No. 1	.03
Blue Overall	.05½
Cottons—According to grades—	
Washable Shredding	.01¾
Fancy Percales	.04¾
New Black Soft	.03¾
Khaki Cuttings—	
Unbleachable Cotton Cuttings	.03½
Bleachable Cotton Cuttings	.04¾
Men's Corduroy	.03½
Ladies' Corduroy	.03
Cottonades	.03¾

Domestic Rags (Old)

White No. 1—Repacked	3.80	●	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
White No. 2—Repacked	2.90	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.00	●	3.50
No. 1 Clean Bright—			
Sisal Strings	.04	"	—
No. 2 Clean Bright—			
Sisal Strings	.03	"	—
Sisal Jute	.02½	"	.02¾
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	●	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.13	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Ledger, colored	2.00	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices, Baled

No. 1 Hard White Shavings, unruled	2.87½	●	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	2.25	"	—
Ground Wood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Overissue News	1.10	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	2.75	●	2.90
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	* —	"	4.00
Mixed Rope	1.60	"	—
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	4.50	"	5.00
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	3.00	"	3.25
South America	—	"	3.25
Wool Tares—			
Foreign	(nominal)		
Domestic	4.25	"	—
Aust. Wool Pouches	—	"	3.63
New Zealand Wool Pouches	—	"	3.38
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.23
Paper Mill Bagging	2.50	"	3.00
No. 2 Roofing Bagging	1.35	"	—

* OPA Maximum Prices.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—		
New Light Prints	.04½	.04¾
Fancy Percales	.04¼	.05
New White No. 1	.06¾	.07
New Light Flannelettes	.05½	.06
Canton Flannels, Bleached	.06	.06¼
Underwear Cutters, Bleached	.06¼	.06¼
Underwear Cutters, Unbleached	.05¾	.06
Silesias No. 1	.06	.06¼
New Black Silesias	.03	.03¾
Red Cotton Cuttings	.03½	.04
Soft Unbleached	.06½	.06¾
Blue Cheviots	.05½	.06
Fancy	.02¾	—
Washable	.02¾	—
Khaki Cuttings	.02¾	.03
O. D. Khaki	.03½	.03¾
Corduroy	.03¼	.03½
New Canvas	.06¼	.06½
B. V. D. Cuttings	.06¼	.06½

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	●	—
Miscellaneous	3.20	"	—
White No. 2—			
Miscellaneous	2.65	"	—
Twos and Blues, Repacked	2.20	"	—
Old Blue Overalls	2.25	"	2.30
Thirds and Blues, Repacked	2.20	"	—
Miscellaneous	1.80	"	—
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—
No. 2	1.45	"	—
No. 3	1.35	"	—
No. 4	1.35	"	—
No. 5, Quality A	1.35	"	—
Quality B	1.20	"	—
Quality C	.95	"	—
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices, Baled

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	●	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.30	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—

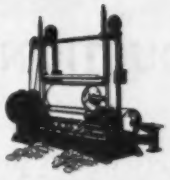
CHAS. T. MAIN, INC.
Consulting Engineers
201 Devonshire St., Boston, Mass.
PULP AND PAPER MILLS
Steam, Hydraulic and Electrical Engineering
Process Studies, Design, Specifications and Engineering Supervision
Reports, Consultation, and Valuations

HARDY S. FERGUSON & CO.
Consulting Engineers
290 FIFTH AVENUE, NEW YORK CITY
Hardy S. Ferguson.....Member A.S.C.E., A.S.M.E., E.I.C.
Bruce H. Tenzo.....Member A.S.M.E., E.I.C., A.S.C.E.
Consultation, reports, valuations, and complete designs and engineering supervision for the construction and equipment of
Pulp and Paper Mills and other Industrial Plants
Steam and Hydro-Electric Power Plants
Dams and Other Hydraulic Structures

PAPER MILLS BUILT AND EQUIPPED
This Corporation is at present engaged in building the first of a series of contemplated extensions to an existing plant. If you plan extensions or modernization, consult
Merritt-Chapman & Scott Corporation
17 Battery Place, New York 4, N. Y.

GEORGE F. HARDY
Consulting Engineer to the Paper Industry since 1900
441 Lexington Ave., New York 17, N. Y.
Member—Am. Soc. C. E.—Am. Soc. M. E.—Eng. Inst. Can.
Consultation — Paper and Pulp Mills
Reports — Hydro-Electric and
Valuations — Steam Power Plants
Estimates — Plans and Specifications

RODERICK O'DONOGHUE
CONSULTING ENGINEER
PULP MILLS — PAPER MILLS
IMPROVED PROCESSES — DESIGNS — REPORTS
420 Lexington Ave. New York City

Langston

SLITTERS AND ROLL WINDERS
From tissue to heavy board; narrow to wide cuts; small to large diameters—there's a size and type for every job.
SAMUEL M. LANGSTON COMPANY, *Camden, New Jersey*

PENNOTEX OIL CORPORATION
29 Broadway
New York, N. Y.
AMORPHOUS WAXES
Melting Points 120° F. to 205° F.
For the Manufacture of
LAMINATING PAPER . . GLASSINES . . WATERPROOFING . . GREASE PROOFING . . EXTENDERS FOR PARAFFIN, FOOD CONTAINERS, CONTAINER LININGS, ADHESIVENESS AND PROTECTIVE COATING.

MISCO "C"
THE CORROSION RESISTANT ALLOY
CAST • ROLLED • FABRICATED
for all equipment exposed to corrosion by sulphite acids
MICHIGAN STEEL CASTING CO., DETROIT 7, MICH.

FOR YOUR EMBOSSING NEEDS USE...
NORTHERN ROLLS
Engraved by NORTHERN ENGRAVING AND MACHINE CO., GREEN BAY, WIS.

Appleton Felts MAKE GOOD PAPER
APPLETON WOOLEN MILLS
APPLETON · WISCONSIN

WELDED PRESSURE VESSELS
National
ANNEALING BOX COMPANY
Pledged to Quality Since 1895
WASHINGTON, PENNA.
from OPEN HEARTH, STAINLESS ALLOY AND CLAD STEELS
API CODE
ASME U-68 U-69
STRESS RELIEVING
X-RAY TESTING

The CLEARING HOUSE

Address replies to advertisements appearing under Box numbers in care of PAPER TRADE JOURNAL, 15 West 47th Street, New York 19, N. Y.

Copy for Classified Advertisements must be in our office on Monday preceding publication

HELP WANTED

PAPER PRODUCTION MANAGER

This advertisement is intended to appeal to an ambitious man around forty who is presently doing a good job in directing paper mill production.

He should have several years experience operating paper board mills with a successful background in handling labor, engineering and planning of production. He has a well rounded knowledge of all elements essential to the management of a chain of three paper mills, the output of which is used in manufacture of the Company's major products. To the right man this offers opportunity for advancement in a large and fast growing organization.

Even though he now has a good connection he has a desire to improve his future and is looking for greater prospects elsewhere. If you are this kind of man your inquiry will be held in the strictest confidence. Address Box 46-704, c/o Paper Trade Journal. O-17

PLANT MANAGER—MECHANICAL ENGINEER

for large paper bag factory in New York City. Experienced in this line—must be capable of designing equipment and making improvements. Understand printing, also handling labor, etc. Age 35 to 45 years. Excellent opportunity. State qualifications and salary. Replies confidential. Address Box 46-696 care Paper Trade Journal. O-17

SALARIED POSITIONS

$5,000-$25,000. This thoroughly organized confidential service of 35 years' recognized standing and reputation carries on preliminary negotiations for supervisory, technical and executive positions of the calibre indicated. Retaining fee protected by refund provision. Identity covered and present position protected. Send only name and address for details.

R. W. BIXBY, INC.
117 Dun Bldg., Buffalo 2, N. Y.

PAPER CHEMIST—Experienced in laboratory and mill techniques of sizings and coatings, particularly using starches, starch products and enzymes. Excellent opportunity. Middle West. Address Box 46-725 care Paper Trade Journal. O-17

HELP WANTED

PROCESS ENGINEER
Wanted

With wide experience in pulp and paper making processes. Must be able to develop flow diagrams and specify related equipment. Excellent opportunity for the right man. Please furnish complete experience record.
Address Box 46-261 care Paper Trade Journal. TF

GUMMING SUPERVISOR—Wanted by large well established paper converter. Should have practical experience in production of gummed paper and cloth tapes and gummed specialty papers. Give full details of qualifications and experience. Address Box 46-612 care Paper Trade Journal. D-19

WANTED—Experienced draftsman, New England pulp and paper mill. Address Box 46-705 care Paper Trade Journal. O-17

PAPER CHEMIST—With knowledge of and preferably experience in converting and sheet forming processes. Good opportunity in research laboratories of resin manufacturer. Location East. Write giving full information regarding training, experience, age, salary expected and include snapshot. Address Box 46-702 care Paper Trade Journal. O-17

HELP WANTED

CHARLES P. RAYMOND SERVICE, Inc.

294 Washington St., Boston, Mass.

Specializing in Paper Mill Personnel
Positions Now Open.

Superintendent cylinder machine, groundwood and sulphite mill
General paper mill supt., also superintendent specialty papers, industrial engineer
Tour boss for So. America
Assistant superintendent paper and boxboard coating plant
Salesman sulphate towels, New England and N. Y. State territory
Cylinder and Fourdrinier tour bosses, machine and back tenders
Graduate mechanical engineer
Tour boss wet machines
Master mechanics and assistant master mechanics
Mechanical (machine) draftsman and designer
Payroll clerk (New England)

We invite correspondence (Strictly Confidential) with paper and pulp mill executives seeking new positions and with employers seeking new personnel. O-17

WANTED

Sales engineer to represent long established eastern paper mill machinery manufacturer, must have thorough knowledge of paper mill equipment also free to travel; would consider former paper mill superintendent or maintenance engineer. Reply by letter, specifying age, experience, qualifications, how soon available, also salary expected. Address Box 46-685 care Paper Trade Journal. O-17

ENGINEER-DRAFTSMAN

For Paper Mill in Massachusetts. Young man 25-30 years of age. Good appearance and personality. Preferably with some paper mill experience. Salary $225.00 $250.00 per month. Address Box No. 46-676 care Paper Trade Journal. O-24

WANTED

Research and development chemist or chemical engineer for work in fields such as sizing, application of synthetic resins, etc. Graduate training and paper mill experience desirable. Responsible position with excellent opportunities. Address reply to Box 46-720 care Paper Trade Journal. O-31

COLLEGE GRADUATE-MECHANICAL ENGINEER—25-30, two or more years practical experience sulphate mill operation. Position with consulting engineering firm. Only those having qualifications noted will be considered. Address Box 46-714 care Paper Trade Journal, giving education, experience, salary required. O-31

WANTED—Superintendent for two Harper fourdrinier machine mill located in New York State making toilet tissue. Good opportunity for aggressive experienced man. In reply, please give references, salary expected and experience. Address Box 46-727 care Paper Trade Journal. O-31

SITUATIONS WANTED

FELT MILL SUPERINTENDENT—Exceptional experience. Rebuilding—operation—consulting. One of the best men in the industry. Address Box 46-699 care Paper Trade Journal. O-31

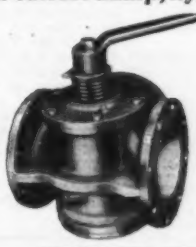
EXECUTIVE POSITION by mature, technically trained man, experienced in manufacturing, management and sales. Address Box 46-687 care Paper Trade Journal. O-31

Pardon us for the slight exaggeration, but the fact remains that a team of horses might come in handy when a valve does freeze good and tight, particularly when it's hard to get at.

All such "aggravatin" valve sessions could be avoided were Miami rotary valves of the new non-freeze design on your lines.

Messenger No. 215, out June 7 last year, went into great detail on this valve and we repeat the core of the matter on the right. Study the comparison. Better still, locate June, 1945 Messenger and get the entire picture. Do that and you'll want Miami rotaries for use wherever rotary type valves are indicated. Sizes 4" to 24". Available with or without inner liners.

All other type valves: dump, hydrant, gate, etc.



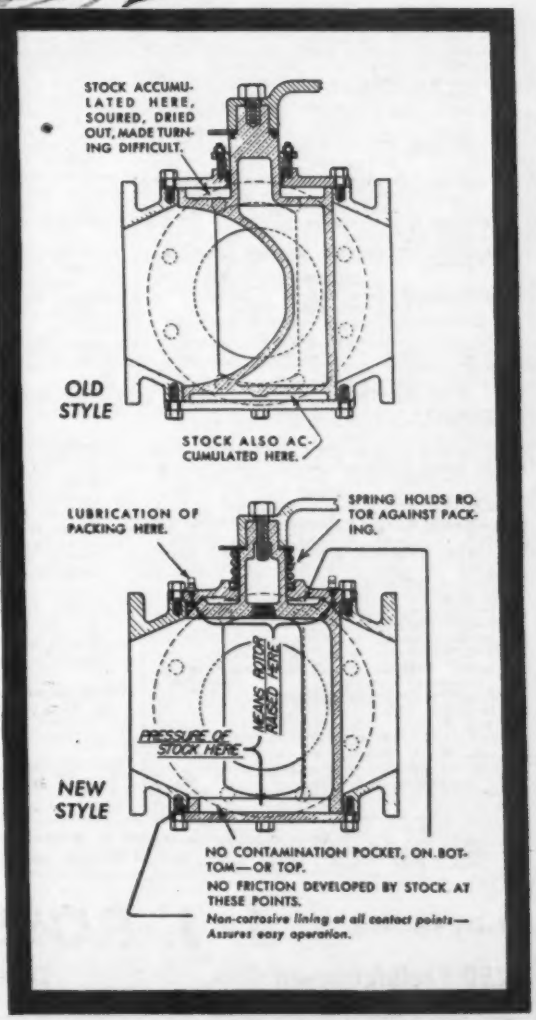
SHARTLE BROTHERS
MACHINE COMPANY

MIDDLETOWN, OHIO

DILTS MACHINE WORKS, FULTON, NEW YORK

Divisions of The Black-Clawson Co., Hamilton, Ohio

Associate: Alexander Fleck Limited, Ottawa, Ontario, Canada


STOCK ACCUMULATED HERE, SOURED, DRIED OUT, MADE TURNING DIFFICULT.
OLD STYLE
STOCK ALSO ACCUMULATED HERE.
LUBRICATION OF PACKING HERE.
SPRING HOLDS ROTOR AGAINST PACKING.
MEANS ROTOR SEALED HERE
PRESSURE OF STOCK HERE
NEW STYLE
NO CONTAMINATION POCKET, ON BOTTOM—OR TOP.
NO FRICTION DEVELOPED BY STOCK AT THESE POINTS.
Non-corrosive lining at all contact points—Assures easy operation.

SITUATIONS WANTED

ENGINEER-OPERATOR

With wide experience in stock preparations, mill design and operation for specialty papers and for board.

Can select most efficient equipment and supervise layout to make high grade wall board from many kinds of wood.

Box 46-672 care Paper Trade Journal. O-31

CHEMIST—with six years experience desires position of responsibility in Fine Paper Mill. Experienced in Manufacture of Cigarette, Carbon, Bond Banknote papers. Supervision of Cooking, Bleaching of Flax, Hemp and Cotton. Accommodations for family essential. Address Box 46-673 care Paper Trade Journal. O-24

FOURDRINIER MACHINE TENDER desires position with promotion possibilities. Young, 34, ten years experience all grades, technical training, references. What have you to offer? Address Box 46-674 care Paper Trade Journal. O-17

MECHANICAL ENGINEER—20 years experience, plant design, process development, erection, cooperative reliable character, excellent references, now employed, seeks position offering better opportunities. Address Box 46-681 care Paper Trade Journal. O-17

PLANT MANAGER—Thorough experience in converting paper and boards; wants change to position offering better opportunity. Excellent production and labor relations background. Address Box 46-694 care Paper Trade Journal. O-31

FOURDRINIER EXECUTIVE — Ten years with one of America's foremost mills. Experience covers control and color work. Highly trained. Address Box 46-700 care Paper Trade Journal. O-24

TECHNICAL DIRECTOR — MILL MANAGER WILL BE AVAILABLE WITHIN 30 DAYS. BROAD EXPERIENCE IN LAMINATING AND COATING. EXPERIENCED IN PRODUCTION, CONTROL, DEVELOPMENT AND SALES RESEARCH. COMPLETE REFERENCES FURNISHED. ADDRESS BOX 46-697 care PAPER TRADE JOURNAL. O-24

CHEMIST, EXPERIENCED raw MATERIALS, PROCESS, and PRODUCT control. West or Southwest preferred, but not essential. Address Box 46-703 care Paper Trade Journal. O-24

BOSS MACHINE TENDER—27 years experience in specialties, tissue, facial, cigarette. Good references. Address Box 46-722 care Paper Trade Journal. O-17

SITUATIONS WANTED

MILL REPRESENTATIVE covering the jobbing and direct trade for the past 15 years from Pennsylvania through to the Carolinas, now desires to operate over the same territories with 2 or 3 non-conflicting lines. What have you to offer? Address Box 46-412 care Paper Trade Journal. TF

FOR SALE

FOR SALE

One 60-ton capacity Shartle Brothers continuous breaker beater with perforated backfall, overall length of Tub 39'6", width of rolls 58", diameter 60", regular Shartle steel shaft and built-up roll, hollow mid-feather. Available for immediate shipment. Now in operation but will be shut down within a week. Address Box 46-712 care Paper Trade Journal. O-31

PAPER COATING MACHINERY — Waxing, Oiling, Gumming, Gluing, Carbon, Laboratory Coating and Treating Machines. High speed. New improvement. MAYER MACHINE COMPANY, Inc., 1155 Scottsville Road, Rochester, 11, N. Y. TF

FOR SALE

BEATERS

1—2000 lb. Holyoke-Iron Tub Beater.
2—1200 lb. E. D. Jones (no tubs).
1—1000 lb. Dayton Beater (no tub).
1—400 lb. Gavit—iron tub beater.
1—Breaker Beater—Dilts Bandless Roll 62" diameter x 54" face—70 tons daily capacity. Equipped with Shartle Bros. Ragger.
1—Bandless Beater Roll, 60" diameter x 54" face.

BLOWERS

2—Buffalo Forge Company—Size 7—Duplex Conoidal steel plate Blowers. Ball bearing.

CALENDER STACKS

1—5 roll 84" face—Farrel.
1—6 roll—72" face.
1—7-roll 36" Holyoke Machine. (supercalender)

CENTRAP

1—Shartle Brothers Centrap.

COATING MACHINE

1—26" six roll coating machine.

CYLINDER MOULDS

1—30" diameter x 74" face.
3—30" diameter x 54" face.
1—30" diameter x 75" face.
1—36" diameter x 84" face.
1—36" diameter x 80" face.
2—36" diameter x 72" face.
4—30" diameter x 72" face.

DOCTORS

14—Dillon Doctors—complete with accessories—98" face.

DRIVES

4—Smith & Winchester Drives.
1—Moore & White mortise gear drive.
1—D. O. James 75 H.P. Speed Reducer with couplings and motor base. Ratio 2.16 to 1. 900 RPM to 418 RPM.
1—#7½ Reeves.

DRYERS

16—36" diameter x 115" face.
1—28" diameter x 76" face.
1—48" diameter x 94" face.
1—24" diameter x 84" face. (Baby)
8—36" diameter x 64" face, with frames gears and bearings.
2—25" x 120" (Baby Dryers).
1—48" x 100".
1—36" diameter x 38" face.

ERKENSATORS

8—I. W. E. Erkensators—bronze construction—complete with motors, starters and distributing box.

FLAT SCREEN

1—4 plate Flat Screen.

HYDRAULIC PRESSES

1—Lake Erie Engineering Co., 78 ton, platen 12" x 12".
1—Watson Stillman, 60 ton, platen 14" x 14", with triplex pump and motor.

JORDANS

1—No. 2 Miami Jordan.
1—No. 9 Emerson Jordan—for direct connection to a motor.
1—Noble and Wood, Monarch, new fillings.
1—#2 Emerson, with 125 h.p. motor.
2—Noble & Wood, Pony Monarch, Belt Driven.

MOTOR

1—25 h.p. motor, including starting equipment.

PRESS ROLLS (Rubber Covered)

1—27½" diameter x 186" face.
1—26" diameter x 185" face.

PULP EQUIPMENT

1—32" three pocket Glens Falls Grinder (for 27" wood).

PULP SCREEN

1—IMPCO centrifugal pulp screen design No. 3.

PULPER

1—Jones Pulper.

PULVERIZER

1—Erie coal pulverizer.

PUMPS

1—Buffalo Pump—5500 g.p.m. direct connected to 100 H.P. Motor (50' head).
Various sizes of Centrifugal and Plunger Pumps. Write us regarding your particular requirements.

RAG CUTTER

1—Taylor Stiles, 14", Little Giant.

REDUCERS

2—Westinghouse Gear Motors—25 h.p.—115 output r.p.m.—3/60/440.

REELS

1—72" Downingtown Expansion Reel.
1—2 Bowl Reel — 112" face — bowls 20" diameter.
1—2 Bowl Reel—110" face.

ROLLS

500—Brass tube—steel tube—rubber covered iron rolls—various sizes.

ROTARY SCREENS

3—Moore & White Rotary Screens (alternating diaphragm type).

SAVEALL

1—Saveall 36" diameter x 96" face cylinder mold. (With iron end vat.)

SCREEN PLATES

36 plates—43 x 11 1/16"—.050 cut—bevel edges.
24 plates—Recently recut .008.
12 plates—Recently recut .035.
Also other sizes and cuts in stock.

SHREDDERS

1—No. 25 CRSE Mitts & Merrill Hog.
1—Gilman Shredder.
1—Waterville Shredder.

SHEETERS

1—128" Moore & White Sheeter with layboy.
1—48" Langston heavy duty chopper (this is a combination machine, combining a slitter, scorer, sheeter and chopper.)

SLITTERS AND WINDERS

1—36" Beck Razor Blade type Slitter & Winder.
1—60" Moore & White Slitter and Winder set for 5/8" slits.
1—60" Moore & White Slitter and Winder set for 7/16" slits.
1—120" Moore & White 4 drum slitter.
1—80" 2 drum Warren Winder.

STOCK PUMPS

1—7¾ x 12 duplex Moore & White.
1—12 x 20 Triplex Shartle.
1—8 x 18 Duplex Friction Co.
1—10 x 12 open impeller. (All lead).
Numerous other Centrifugal Stock Pumps Advise us to your requirements.

SUCTION BOX

1—Nash 100" face Suction Box.

SUCTION FELT ROLLS

2—Downingtown Suction Felt Rolls—(10" diameter x 101" face and 10" diameter x 107" face).

TOILET AND TOWEL MACHINES

1—65" Towel Machine.
1—85" Toilet Machine.

V-BELT DRIVES

1—{23" diameter x 14" face, 10 grooves.
{15" diameter x 14" face, 10 grooves.

VACUUM PUMPS

2—#4 Nash Hytor.
1—No. 7 Sturtevant Vacuum Pump.

WET MACHINE

1—74" Moore & White.

We are always in the market to purchase your surplus or idle machinery. What have you to offer? Wanted Cylinder and Fourdrinier Machines (complete mills).

Paddy Ross, Pres. **J. J. ROSS COMPANY** Ben Kurs, Treas.

250 Frelinghuysen Ave. Tel.—Bigelow 3-3720 Newark 5, N. J.

TELEPHONE
HUMBOLDT 2-2177

CABLE ADDRESS: JACK ROSS

ROSS PAPER MACHINERY CO.

265 PASSAIC STREET
NEWARK 4, N. J.

CONVERTING
PAPER MAKING EQUIPMENT

NEW, USED, REBUILT
PAPER AND PULP MACHINERY

JACK ROSS, President

BEATER—1 Shartle Brothers Breaker Beater Roll 58" Face—60" diameter. Cast Iron Tub. 40 ft. long. with perforated backfall. Used 6 years.

1—Farrel Birmingham 16" Asphalt Extruder Complete.—Used 7 months.

AIR HOISTS
2—Two-Ton Ingersoll Rand
2—Five-Ton Ingersoll Rand

BEATERS
2—1000 lb. Horne Iron Tub.
2—1200 lb. E. D. Jones Iron Tub Beaters with washers.
2—1200 lb. E. D. Jones Beater—no tubs.
3—Valley Iron 750 lbs. Iron Tub Beaters, with Silent Link Belt Drive.
1—1200 lb. Noble and Wood—no tub. Spare new fillings for roll.

BIRD SCREEN PLATE
17 Plate—60 cut. New condition.

BLEACHERS
2—Fletcher high density bleachers—used 3 months.

BLOWERS
1—American ball bearing blower, size 17" x 33" for motor drive.
1—American Blower, size 40. For belt drive.

CALENDER DOCTORS
1 set of 16 Warren Doctors 104" face with frames.
60 Warren Doctors—various sizes.

CALENDER ROLLS
50 rolls various sizes

CALENDER STACKS
2—2 roll Holyoke 36" face.

CONVERTING EQUIPMENT
1—Sanitary Napkin Machine. With motors and starters.
1—Bliss Double Head Stitcher.

COUCH ROLLS
2—18" diameter x 92" face—brass covered.
3—20" diameter x 92" face—brass covered.

CREPING MACHINE
1—Complete Rotary S. Sewell Creping Machine. Dryer 100" face x 48" diameter. Ball bearing equipped. Used 6 months.

CYLINDER MOLDS
3—Impco—84" face—40" diameter with stainless steel face wire
2—110" face x 36" dia.
4—84" face x 36" diameter.
1—94" x 36"—with ball bearing and cast iron end vats.

DANDY ROLLS
2—122" face 10" dia.
1—138" face 12" dia.
1—129" face 9½" dia.

DRIVES
1—Falk 25 h.p.—7.5 to 1.—1750 r.p.m.

DRYER DOCTORS
40—Warren Doctors. Various sizes.

DRYERS
30—48" Dia. x 46" Face, Chromium Plated.
2—24" Dia. x 46" Face.

ELECTRIC HOIST
1—Sprague Electric 3 ton hoist—5 h.p. 3 phase —60 cycle—110 volts.

FLAT SCREENS
2—Harmon 16 plate.
1—6 plate Sandy Hill Packer—roller shoes.
1—Sandy Hill 2 plate flat screen.

FOURDRINIER SHAKES
1—Beloit Fourdrinier Shakes.
1—Sandy Hill Bertram Shake. Late type.

FOURDRINIER WET END
1—120" Beloit Fourdrinier Wet End.
1—74" Pusey & Jones Wet End.

GRANITE ROLLS
2—112" face 20" diameter.

HAMMERMILLS
1—American Hammermill—37" anti friction bearing equipped.
1—Williams 12" Hammermill Ball Bearing.

HOG
1—Mitts & Merrill Hog. Number 5252.

JORDANS
1—E. D. Jones Majestic Jordans.
1—E. D. Jones Imperial Jordans—belt driven.
1—Smith & Winchester 30 ton capacity—belt driven.

LINE SHAFT
1—Complete line shaft with pulleys and pillar block.

PLATERS
2—Holyoke 2 Roll 18" dia. 36" face.

PULLEYS
60—Cone Split and Solid Cast Iron Pulleys. Various Sizes.

PULP SCREENS
4—Wells Screens.
6—Trimbey Screens.

PULP EQUIPMENT
1—120" face Kamyr Press.
1—84" Sumner Disc Barker with motor
1—84" Carthage 4 knife chipper, 3 sets spare knives with one Waterville Rechipper.

PULPERS
1—Voith Pulper 20 tons cap.
1—Bird Pulper.

PUMPS
4—Ingersoll Rand 250 g.p.m. 1740 rpm 90' head —4" suction—3" discharge. Direct connected to 10 hp. General Electric 220-440 volt—3 phase—60 cycle motor.
4—Ingersoll Rand 500 g.p.m. 1745 r.p.m.—60' head—4" suction—3" discharge. Connected to 15 h.p. General Electric 220-440 volt—3 phase—60 cycle motor.
4—Worthington Pumps 10,000 g.p.m.—35' head. Requires 75 h.p. at 350 r.p.m.
1—DeLaval 6" x 6".
1—DeLaval 1800 g.p.m. 30' Head, 500 r.p.m.—8" Suction—10" Discharge, Ball Bearing—Belt Driven—or for Direct Connection to Motor. Open Impeller.
16—Warren Vertical Pumps. 6" suction. 3" discharge. 138 g.p.m. 90' head. Direct Connected 6 h.p. General Electric motor, 1750 r.p.m. 440 volts, 3 ph.-60 cycle, ball bearing.
1—Warren Close Coupled Centrifugal Pump. 3" suction, 2" discharge. 60 g.p.m. 90' head. 6 h.p. General Electric 1750 r.p.m. 440 volts, 3 ph-60 cycle, ball bearing.
2—Worthington 9". 2 stage. 200 g.p.m. 224' head. Bronze Ball Bearings.
1—Worthington 400 g.p.m. 35' head 1750 r.p.m. Ball bearing.
2—La Bour Company self priming ball bearing pumps. 2½" suction. 2½" discharge. 150 g.p.m.—30' head with extended base for motor.
295 additional pumps in our warehouse—various sizes.

REFINERS
1—Weiner Refiner 24" with extended base for direct connection to motor.

ROLLS
40—Table, Dress, Felt, Wire, Breast and Calender Rolls. Various Sizes.

ROTARY COOKER
1—Rotary Cooker—8' dia. x 21' long—complete with drive.

ROTARY SCREENS
2—#2 Bird with copper vats.
2—#1 Bird with steel vats, lead lined.
4—Moore & White.

RUBBER PRESS ROLLS
1—119" Face—19½" Diameter.
1—100" Face—17½" Diameter.
1—120" Face—19" Diameter.
1—118" Face—18" Diameter.
1—129" Face—18" Diameter.
1—107" Face—19" Diameter.
1—106" Face—18¼" Diameter.

SAVEALLS
1—A. D. Wood cylinder 48" dia. 60" face.

SCREW PRESS
1—Valley Iron Screw Press. Used 2 years.

SHEETERS
1—90" Hamblet Duplex.
1—60" Beloit Single Knife heavy duty.

SHREDDERS
2—24" Sprout Waldron heavy duty shredders—anti friction bearing equipped.
1—Taylor Stiles Portable Pulp Shredder—on wheels.
1—Ryther and Pringle Shredder.

SLITTERS AND WINDERS
1—82" Warren two drum—fully rebuilt.
1—41" Waldron Slitter and rewinder. Roll embossing attachment.

STEAM LOCOMOTIVES & WOODLAND EQUIPMENT
1—32 ton 36" gauge Shay-Lima locomotive. Air pressure 150 lbs. P.S.I. with a large lot of new spare parts.
1—40 ton 36" gauge Improved Climax Locomotive. Boiler pressure 150 lbs. P.S.I. with a large lot of new spare parts.
30—36" gauge wood cars. 40,000 lbs. log or pulpwood capacity. Used 4 months.
1—Sheffield motor car, manufactured by Fairbanks Morse—36" gauge—New.

SUPERCALENDER STACKS
1—6 roll Norwood 83" face. Bottom roll 34" diameter. Top roll 20" diameter.

TURBINES
1—Westinghouse 125 h.p. 125 steam pressure—15 back pressure. Complete. Used 1 year.

TURBINES—PAPER MACHINE DRIVE
2—General Electric Turbine Paper Machine Drive 250 h.p.—350 r.p.m. 125 lb. steam pressure. 30 lb back pressure.

UNWINDERS
1—42" John Waldron Unwinder. Used 1 year.

VACUUM PUMPS
2—14" x 20" Connersville.

WET MACHINES
2—Glens Falls 84" Wet Machines—cylinder mold 36" diameter with 18" rubber couches.

YANKEE DRYERS
2—Beloit 8' dia. x 175" face—75# working pressure.
1—Beloit 5' dia. x 194" face—75# working pressure.

THE ABOVE IS A PARTIAL LIST OF EQUIPMENT OFFERED FOR SALE.
NO CONNECTION WITH ANY OTHER FIRM OF SIMILAR NAME.

FOR SALE

REVAMPING AND REBUILDING MILL AND CAN OFFER FOR SALE

1—Noble & Wood Mammoth Jr. Jordan ⅛" Filling. Now operating.
1—Brass covered finishing press roll—17¾" diameter x 89½" face, complete with bearings and Noble & Wood friction drive.
1—4000# Capacity motor driven freight elevator with automatic stop control—can be inspected in operation at our plant.
1—9" Lawrence Centrifugal Water pump.
2—6" Barnes Centrifugal Sewage Pumps.
9—100" Screen plates for No. 2-A Bird Screen. Slots. .022—never used after being reset once.
1—Rubber covered press roll 12" diameter by 82" face—Journals 5" diameter by 7¼" long.
1—Rubber covered press roll 12" diameter by 84¼" face—Journals 5" diameter by 7¼" long.
1—29" face cast iron tapered pulley—2 15/16" Bore, Taper 31"-29½".
2—29" face cast iron tapered pulley—3 7/16" Bore, Taper 31"-30".
1—24" face cast iron tapered pulley—3 7/16" Bore, Tapered 31⅝"-29⅝".
3—Steel split pulleys 60" diameter by 31" face —5 15/16" bore.
1—Cast iron split pulley—60" diameter by 27" face by 3½" bore.
1—Cast iron split pulley—40½" diameter by 21" face by 3½" bore.
1—Cast iron split pulley—84" diameter by 30" face by 5 15/16" bore.
1—Cast iron split pulley—72" diameter by 19" face by 15" face by 8⅝" bore.
2 —Steel split pulleys—60" diameter by 41" face by 5 15/16" bore.
1—Paper pulley—24" diameter by 21" face by 4½" bore.
1—Tapered cast iron split pulley, Taper 30" to 28½" by 20" face by 3 15/16" bore.
1—30" x 90" Cylinder mould—7" diameter shaft inside cylinder.
1 9½" diameter x 85" Face Rubber-covered squeeze or wringer roll-Journals 1 15/16" diameter.
1—9" diameter x 88" Face Calender roll—8" diameter journals.
10—6½" dia. x 92" face steel drier felt rolls with 1 7/16" x 6½" Journals.
2—4" Gould centrifugal stock pumps with 2 vane open impeller. Capacity 600 G.P.M. at 40' head—1175 R P M. with 10 H.P. Operated less than two years.
2 —Pair Noble & Wood lighter stands complete with lighter beams and bearings for 6" diameter journal beater roll.

A visit to the mill would prove profitable as we have many items for sale too numerous to mention. See our superintendent, Mr. O. P. Fussell at our plant in Walloomsac, N. Y.

WALLOOMSAC PAPER MILLS, INC.
Mills: Walloomsac, New York
Main Office: 25 Vanderbilt Avenue
New York 17, N. Y. TF

GOOD VALUES FOR THE PAPER MILL

68" Rice, Barton, Fales Slitter-Rewinder.
80" and 110" Mill Type Sheeters.
34" Inman Slitter.
54" Brown & Carver Power Cutter.
13 x 19 Miller High Speed with swing back feed.
38" Burton Slot-hole Perforator.
2—14" x 22" John Thomsons.
Robinson Double Corner Cutter.
American heavy duty Cross-Cut Saw.
Baling Presses—NEW—Hand and Power.

THOMAS W. HALL COMPANY, INC.
120 West 42nd St., New York 18

FOR SALE

2—TS-16 — 400 HP — G.E. Motors — 450 RPM—2200 V—3 PH—60 Cycle—0.8 P.F.—40°C. Rise — Drip Proof — Self Ventilated—Enclosed Collector Rings—50% Starting Torque—50% Pull-in Torque—150% Pull-out Torque—With Direct Connected Exciter. These are brand new motors of 1946 manufacture and have never been removed from their original shipping crates. Subject to prior sale. Please address replies to Paper Trade Journal, Box 46-709. O-24

FOR SALE—64" Seybold Twentieth Century Cutter, guaranteed to be in good working order. Address Box 46-732 care Paper Trade Journal. O-17

FOR SALE—Cast Iron Heavy Duty Split Line Shaft Pulley, 62" diameter, 22" face and 4 11/16" bore. Address Box 46-721 care Paper Trade Journal. O-24

FOR SALE

FRANK H. DAVIS CO.,
ESTABLISHED 1889
USED AND REBUILT PAPER MACHINERY

FOR SALE

BARKERS
1—48" Waterville
BEATERS
2—Holyoke 66 x 90, iron tub
1—2000 lb. Horse, iron tub Broke Beater new 1941, roll bandless 80 x 48
1—Horne patent 90 x 60, bronze bars
CALENDER
Set of 124" rolls, bottom 22"; 2-10"; 8-12"
CUTTERS
1—110" Hamblet duplex
1—84" Clark with Moore & White layboy
1—62" Smith & Winchester undercut
1—Taylor Stiles rag cutter
1—Daniels rag cutter
DECKERS
1—30 x 95 Black & Clawson
1—30 x 74" Impco
3—Asmow Filters, mould 50" x 100"
DRYERS
1—6' x 80"; 1—6' x 102"; 1—6' x 106"
2—5' x [illegible]"; 1—5' x 104" new 1939
EMBOSSERS
1—60" Hudson Sharpe Embossing Machine
FANS
2—Buffalo double turbo 9½ Conoidal forced draft fans
JORDANS
2—Union Standard for motor drive
1—N & W Pony Monarch
1—Claflin #2
FOURDRINIER PARTS
1—Rice Barton, wire 100" x 81', rebuilt with 2 Reeves drives
1—Pusey & Jones, wire 133" x 61' 2", running at 500 F P M
1—48" wire
1—22 x 104 Suction couch.
1—14½ x 80" Suction couch.
LOCOMOTIVE
1—Alliance, also 7000 feet of 80 lb. track with connections
MIXER AND COOKER
1—75 gallon cooker #75
PULPERS
1—#1 Lamneyo
2—Jones with Falk reducers and motors 440 volts, 3 phase, 60 cycle
1—Lamneyo #2
PUMPS
1—10 x 10 Reteit triplex
2—10 x 12 Deane
1—27 14 x 20 Roots vacuum pump, bronze fitters
SCREENS
2—Bird #2
2—Bird #2A
2—Moore & White #2
1—Leith Walk
4—12 plate Packer
2—10 plate Impco flat, bronze vats, new 1940
8—14 plate Impco flat, bronze vats, new
2—6 plate; 1 roller shoe
4—New 10 plate, Witham vats
2—New 8 plate, Witham vats
SHREDDERS
2—Mitts Merrill #15 C.F. direct cont. to 125 H.P. 440 v. motor
1—Waterville
1—Carthage
1—Rythor & Pringle Mitts Merrill type 14A P E B #C 19028
SLITTERS
1—150" Moore & White four drum
1—120" Kidder two drum
1—114" Moore & White four drum, wide 60" roll
1—84" Bagley & Sewall
1—80" Cannard
1—26" Kidder two drum
1—118" four drum.
WASHERS
2—2000 lb. Union Mach. steel tubs

Builders of
ASPHALT COATING, COMBINING MACHINE, GUMMING AND CREPING MACHINE, ROLL GRINDER
FRANK H. DAVIS COMPANY
175 Richdale Ave., Cambridge, Mass. TF

FOR SALE

2—No. 55—72"x18'—Erie city return tubular boilers. 125# pressure each rated 156 H.P. Purchased new Sept. 1941.

KEUKA PAPER CORP.
Penn Yan, N. Y.
O-17

FOR SALE

1—#6½ Reeves Variable Speed Transmission—29 h.p. 1 to 4 range—Full ball bearing. Enclosed. Condition like new.
1—Modern Clipper Cellophane Bag Machine.

1—30" Late type Model D Fales Slitter and Rewinder equipped with knife setups to cut following widths: ¾, 9/32, 5/16, 11/32, ¾, 13/32, 7/16 and ½ inches.

1—68" Type 40B Hudson Sharp Toilet Paper Converter. Perforates 5" lengths toilet or 10" paper towels.

3—Single Hamblet Rotary Sheet Cutters, 1—75"; 2—84". Slitting attachment, 6 roll backstands and layboys.

1—Knowlton 46B double belt spiral tube winding machine with 10 HP motor and variable speed drive.
1—Hudson Sharp Facial Tissue Converting Machine 45" wide for embossing, slitting and rewinding folded facial tissue. Complete with AC motor equipment.

4—Complete spiral tube winders with automatic cut-offs, also recutters. 2 Langston and 2 Knowlton manufacture.

GIBBS-BROWER COMPANY, INC.
21 East 40th St., New York 16, N. Y.
TF

FOR SALE

PAPER MACHINE STEAM TURBINE DRIVE

230 H.P. Terry GA Turbine and Gear connected to 24" diameter pulley all on one solid base. Steam inlet 190 pounds. Back Pressure 25 pounds.
With Woodward Governor for speed control through wide range.
This unit is in excellent mechanical condition and a fine buy for anyone needing a paper machine drive for immediate shipment.

FERNSTROM PAPER MILLS, INC.
POMONA, CALIFORNIA TF

FOR SALE

1—Warren Improved 2 drum winder with top and bottom slitters. Trims 105"
2—Calender rolls, 12" dia., 88" face, 6" journals
2—Rubber covered press rolls 18" dia., 80½" face. Journals 7" dia., 9" long, 84" between shoulders.
1—Ryther & Pringle paper duster. 8'x6'x 16'.
1—Brass press roll 18" dia., 80½" face 84" between shoulders
1—Granite press roll 18" dia., 80½" face, 84" inches between shoulders
1—Fan pump 12" inlet, 8" outlet
1—Split pulley 72" dia., 20" face. Extra heavy
1—Split pulley 60" dia., 19" face. For Brownell twin engine
6—4" Moore & White expansion winder shafts. 2—19", 2—31", 2—46"
2—10 plate flat screens. 2—12 plate flat screens
1—American Thompson Improved Indicator (For steam engines)
1—250 gal. Worthington pump, direct connected to 15 HP G. E. Motor 60 cycle 3 phase 220 volts with starter and panel
2—75 HP G. E. Motors 600 rpm, 60 cycle 3 phase 440 volts

FRANK P. LYDEN
Fort Edward, N. Y. O-17

PULP & PAPER MILL FOR SALE

Well located pulpwood supply—good water power; News, Specialties. Also small Specialty Mill. Address Box 46-698 care Paper Trade Journal. O-17

FOR SALE—One 38" two color Rotogravure Press. Sheet feed and pile delivery. Practically new. Address Box 46-541 care Paper Trade Journal. TF

OFFER—180 Copper Covered Steel Beater Bars, 6" wide x 60" long. These are new bars and were purchased for Umpherston beaters. Address Box 46-717 care Paper Trade Journal. O-31

FOR SALE | FOR SALE | FOR SALE

FOR SALE

18—SETS NEW 2 TON YALE & TOWNE SPUR GEARED HIGH SPEED CHAIN HOISTS, BALL BEARING EQUIPPED, SPECIAL 20 FT. LIFT CHAINS.

2—SETS NEW 3 TON WRIGHT HIGH SPEED CHAIN HOISTS, SPUR GEARED, ANTI FRICTION BEARINGS, SPECIAL 20 FT. LIFT CHAINS.

1—Sturtevant Bale Pulper, just taken out of service where it pulped 60 to 75 tons Kraft Pulp daily. Excellent condition.

1—Buffalo Knife Grinder, 48" working carriage.

1—Jeffrey Shredder.

1—48" Tube Winder.

1—48" Coating Machine.

2—Shartle cast iron tub breaker Beaters or Washers, roll 80" dia., 55" face, anti-friction bearings. Used less than one year.

1—Dilts 2000# new type cast iron tub beater with keyed type bandless roll, 66" x 60", also 1—hexagon type washing cylinder.

1—Horne type 1800# wood tub beater with roll 54" dia., 60" face, 4" cypress tub used less than 5 years. A bargain.

1—Valley Iron Works breaker beater roll, 67" dia., 60" face with new staggered bars, bearings, hoods, etc. All very good.

1—Weiner Refiner, very good condition.

2—Shartle Cyclifiners, new fillings, pin type coupling.

1—No. 2 Bird Screens, copper lined vat.

1—36" x 90" Cylinder Mould with anti-friction bearings, also cast iron vat end packing box assembly.

2—Black Clawson Wet Machines with cylinders 30" x 74", new vats, balance fully reconditioned.

1—48" Oswego Trimmer, guillotine type.

4—Pairs New Shartle Press Housings (never installed) equipped with anti-friction bearing ratchet lifts.

5—Pairs Press Rolls (1 brass, 1 rubber covered) 16" dia., 77" face.

1—48" dia., 120" face Dryer.

1—112" Langston Slitter and Winder equipped with rider roll, will make rolls up to 60" dia.

1—106" Pusey & Jones two-drum Slitter and Winder, 16" dia. drums. Will wind rolls to 54" dia., fully reconditioned.

1—Bagley & Sewall tissue machine Reel, 136" face, 5' dia. spool, complete with stands and frictions. These reels were in use on machine until August this year.

1—Beloit 2-spool upright Reel, drums 126" face, 18" dia., 3 ft. 4" between drums, will make rolls 60" dia. These are modern, extra heavy type.

1—88" two-drum Bagley & Sewall Warren type Slitter & Winder (fully reconditioned).

3—Agitator Drives for vertical agitator. All enclosed gear speed reducing unit for chest approximately 12 ft. dia., 10 or 12 ft. deep.

3—Marshall Angle Drives built by Moore & White with double gear reduction and M. & W. frictions.

1—10" x 20" Shartle Triplex Plunger Stock Pump fully reconditioned.

2—10" x 11" Beloit Triplex Stock Pumps.

1—DeLaval Centrifugal Water Pump, 1550 GPM, 60 ft. head, 1750 RPM.

4—New Gould all bronze centrifugal water pumps, 2000 GPM, 150 ft. head, 1150 RPM (Navy Surplus).

4—New Gould Pumps, 10,000 GPM, 100 ft. head, all bronze casings, stainless steel shafts, monel metal sleeves, 100 HP motors, 1200 RPM (Navy Surplus).

3—16" dia., 88" face rubber couch rolls, approximately 200 plastometer, 1½" to 2" rubber.

25—7' dia. x 172" face rubber covered fourdrinier Table Rolls. Will cut to fit your machine.

2—45" Indenting Rolls.

We will make table rolls to meet your specifications of:

Aluminum Tubing, 4¼" O.D., 4" I.D.
Phosphorus Bronze Tubing, 3⅛" O.D., 2⅛" I.D.

We will make felt and wire rolls with steel pipe cores, any length to 20', of: New Copper or Brass Tubing, 6⅝" O.D., or 8⅝" O.D.

The above is all new tubing, and will make excellent rolls.

The largest stock of miscellaneous rolls, such as brass breast rolls, brass couch rolls, press rolls rubber covered and brass covered, and calender rolls, available anywhere.

"Every pound of paper is made on used equipment".

OSBORNE PAPER MILL EQUIPMENT CO.
FULTON, N. Y.

O-3

BAG MACHINES FOR SALE

Number	Size Range	Type	Mfgr.
1	5#	Automatic	Weber
2	3#, 4#, 5#	Automatic	Weber
3	6#, 8#, 10#	Automatic	Weber
1	1# and 2#	Automatic	Weber
1	¼# and ½#	Automatic	Weber
2	12#, 14#, 16#	Automatic	Weber
1	3 x 5 up to 6¼ x 9¼	Flat & Square	Potdevin
1	6¼ x 9¼ up to and including 9 x 12	Flat & Square	Potdevin
1	6¼ x 9¼ up to and including 9 x 12	Flat & Square	Potdevin

Box No. 46-733 care Paper Trade Journal
O-24

FOR SALE

New brass covered felt or wire rolls 6⅝" dia., 84 to 120" face. These are made from government surplus and are now in all respects.

Osborne Paper Mill Equipment Co.
Fulton, N. Y. TF

FOR SALE—1—Economy 1,000# Capacity Electric Tiering Machine; 1—Economy 1,500# Capacity Electric Tiering Machine. Both equipped with: 3 h.p., 230 Volt, D-C Roth Motor. Address Box 46-726 care Paper Trade Journal. D-12

FOR SALE—Cellophane. Available in small cut size sheets, either moistureproof or plain. Fairly prompt delivery. Address Box 46-603 care Paper Trade Journal. TF

MACHINERY FOR SALE

1—Impco Pulp Screens of design No. 3.

2—Gould, size 6", double suction centrifugal pumps mounted on baseplates but without motors. These pumps are Fig. 3460, rated 1000 GPM at 25 ft. head and require a 15 HP 1200 RPM motor. One pump is new and one pump is slightly used but in good condition.

3—Saranac Oyster-pail machines, hopper feed.

2—Saranac Butter-dish machines, hopper feed.

STEVENS & THOMPSON PAPER COMPANY
Greenwich, New York
TF

FOR SALE—Two J. H. Horne Large Type Jordans, one arranged for belt drive and the other for direct connection to a motor. Address Box 46-655 care Paper Trade Journal. O-10

FOR SALE | FOR SALE | FOR SALE

TARENTUM PRODUCTS CORP.

TARENTUM, PENNSYLVANIA

1—Majestic Jordan #A-235, complete with new filling, 3/16" tackle, No. 6 Fast Jordan Coupling, and following drive:

1 Westinghouse Induction Motor type CS 375 HP 2300 volts 3 phase 60 cycles 97 amp. 390 RPM Ser. #1463196 complete with one control panel, including one Westinghouse 300 amp. - OH Circuit Panel.
1 set Disconnect Switches.

1—Westinghouse DC Motor 75 HP 230 volts 265 amp. 575 RPM Frame 183 Ser. #4778560. Complete with starting control, circuit breaker and motor.

1—Elliott Water Pump, capacity 800 gallons per minute, serial #37675. Direct connected to one G.E. Motor 25 HP D.C. Type CD 65-230 91.3 amps 1750 RPM Ser. #1530865. Complete with one starting control and switch.

1—Westinghouse Generator 70 KW 250 volts DC 280 amp. 375 RPM Ser. #345451 with one Field Rheostat, one two-pole circuit breaker 800 amp., one Westinghouse 500 amp. ametor and shunt. This Generator driven by Buckeye Steam Engine, 100 lbs. steam pressure engine #5156.

1—2000 KW A.C. Turbine Generator complete with all accessories.

1—Allis-Chalmers Induction motor 250 HP 870 RPM 2200 volts, 3 ph 60 cy 59 amp. Serial #2K13566.1.

1—G.E. Induction Motor type KT 326-6-25-1200 Form B 3 ph 60 cy 220 volts 25 HP 61 amp. 1200 RPM Ser. #1653934 complete with one G.E. OIL Switch type F Form K20 80 amp 600 v Ser. #368400.

1—G.E. Starting Compensator CR1034 220 volts 3 ph 60 cy type NR 1622.

1—G.E. Induction Motor (slipring) Frame 15A 150 HP Form M 720 RPM 2200 v. 3 ph 60 cy 36 amp Ser. #1180132.

1—G.E. Induction Motor (slipring) Frame 15A 150 HP Form M 720 RPM 2200 v. 3 ph 60 cy 36 amp.

1—Westinghouse 30 HP D.C. Motor 220 volts 117 amp. 875 RPM Ser. #293501.

1—G.E. Motor DC Type MP Form H 20 HP 1025 RPM 220 volts 70 amp. Ser. #119680, complete with manual starting equipment.

1—104" Sheet Cutter complete with stands for 10 rolls, and layboy.

1—G.E. Motor DC Type RC30 Form A 15 HP 850 RPM 230 volts 53.5 amp. Ser. #957750, complete with variable speed control for armature and field.

1—G.E. Motor DC 7.5 HP 230 volts 30.2 amp 850 RPM Type RC-29A Form A25 Ser. #1145541.

1—G.E. Motor DC 10 HP 230 volts 375.1 amp 850 RPM Type RC 29 Form A29 Ser. #1148660.

1—Westinghouse DC Motor Type S 5 HP 220 volts 21 amp. 1300 RPM Ser. #112692.

1—G.E. Motor DC 35 HP 129 amp. 230 volts 700 RPM DLC 282 Form A Compound Ser. #434542, complete with starting control.

1—G.E. Induction Motor (slipring) Type IE 13AA-4-150-1800 FORM M 3 ph 60 cy 2200 volts 150 HP 34.5 amp 1745 RPM Ser. #3834576 complete with panel. One G.E. Switch Panel type ATI 50000, one Drum Controller and Resistance variable speed.

1—Master Electric Worthington Pump and Motor. Pump is good for 100 gal. per minute 5 HP Motor 230 volts DC 3425 RPM Ser. #CC-3495.

1—Robbins & Myers Hoist ½ HP 230 volts DC 400 RPM Ser. M71309KH.

1—Master Electric Gear Head Motor 1 HP 230 volts DC 1725 RPM Ser. CE863.

1—Shepard Liftabout Electric Hoist 2,000 lb. capacity 230 volts DC Serial #11339.

1—Wright Electric Hoist 1,000 lb. capacity 230 volts DC 1200 RPM Ser. #27668.

3—ILG Ventilating Fans ¼ HP 230 volts DC 855 RPM.

2—G.E. CP27 Compressor Head Air Pumps 230 volts DC Complete with pressure line switches.

1—Allis-Chalmers DC Motor 5 HP 220 volts 1050 RPM Ser. 44037.

1—Westinghouse DC Motor 10 HP 40 amp. 230 volts 1725 RPM Frame 60L Ser. #143433.

1—Daniels Rag Cutter #2.

1—Horizontal Rotary Digester 7' dia., 22' long with gearing reduction.

1—Horizontal Rotary Digester 8' dia., 20' long with gearing reduction.

1—Bucket type conveyor elevator. Buckets 6in 5" x 17", approximately 48' long, lifts on incline approx. 15'. All steel construction with Rex Chain Drive, complete with one Foote Bros. gear reducer type 25W 43 to 1 ratio, ser. 128052, driven by one G.E. DC Motor type RC27A Form A-38 5 HP 19.1 amp 230 volts 1150 RPM.

1—R40 Reducer, 12 to 1 ratio.

1—Slipring motor 75/150 HP Type CW 3 ph 60 cy 2200 volts 200/500 RPM Ser. #2224675, complete with starting equipment.

1—Slat conveyor steel construction 4' wide, 3' high, 42' long, driven by one Jones Spur Gear Reducer, ratio 27 to 1, Ser. #10135. Driven by one Sprag Electric DC Motor type LC 10 HP 37.2 amps 230 V 100 RPM Ser. #DL 2003213, complete with sheaves and V Belt drive, one Westinghouse Automatic Starter.

1—John Waldron Embosser #711.

1—Thorpe Hydraulic Press complete with 4 steam plates plates 40" x 40", and one Equalizer Pump.

1—Five cylinder Holyoke Duster.

1—Two-color Kidder Rotary Press, with various plates and printing rolls.

3—Beaters, 1000 lb., cast iron tub, complete with roll.

2—Beaters, high speed, 2000 lb., cast iron tub, complete with roll.

1—Banded type Emerson Beater Roll, 54" face, 56" diameter, complete with stands.

MISC.

Platform Scales.
Paper Testing Equipment.
Two-wheeled hand trucks.
One Shartle Bros. Duplex Stock Pump 8 x 16.

TF

FOR SALE

BREAKER BEATER

1—Dilts Bandless Roll 62" diameter x 54" face—70 tons daily capacity. Equipped with Shartle Bros. Ragger.

J. J. ROSS COMPANY
250 Frelinghuysen Ave., Newark 5, N. J.
Tel. Bigelow 3-3720 O-17

FOR SALE—Knowlton Spiral Winder complete with motors, tube cutters, roll slitter and other paper tube machinery—immediate shipment. Theo. Adams, 111 W. Washington St., Chicago, Ill. O-17

FOR SALE—1 Hamilton-Corliss Variable Speed Twin Engine, size of cylinders 12" x 24". Also Triple-Deck Frames for ninety 36" dryers, any width. The Chesapeake Paperboard Co., Baltimore 30, Md. TF

FOR SALE—Approximately one Carload (12 tons) clean, bleached, unprinted, new waxing broke in bales located New York State. Advise best offer. Address Box 46-706 care Paper Trade Journal. O-24

FOR SALE—2 Quadruple Effect Vertical Body Evaporators for caustic liquors. Priced right for quick sale. Write for detailed specifications. BRILL EQUIPMENT COMPANY, 225 West 34th Street, New York, 1, N. Y. N-7

WANTED

WANTED—Brightwood Box Machine. Address Box 46-33 care Paper Trade Journal. TF

WANTED—Paper Cutter 48 to 68"—with preference towards larger size. Address Box 46-730 care Paper Trade Journal. O-17

PAPER MANUFACTURER desires to purchase or invest in converting business of standard paper products. Address Box 46-708 care Paper Trade Journal. TF

WANTED | WANTED

BLEACHED PAPER WANTED

Large Converter requires additional Source of Supply for Bleached Fourdrinier Paper. Large tonnage desired. Prepared to contract for long term or invest substantial sum in return for tonnage commitment. Important able to deliver quickly.

Address Box 46-710 care Paper Trade Journal O-24

WANTED

WANTED TO BUY

Bond, Offset, Index, Manifold Ground Wood, Printing paper, Kraft, Glassine, Tissue, etc. Rolls or sheets. Box No. 46-680 care Paper Trade Journal. O-24

WANTED

Fourdrinier Machine
Trim over 100"
Responsible party.
All cash deal.

Address Box #46-723, care Paper Trade Journal
N-7

WANTED—White or colored paper in jumbo rolls varying from 10" in width or wider. Send your offers to Box 46-691 care Paper Trade Journal. O-3

PAPER MILLS—If you have open machine time, we can supply you with Unbleached Sulphite and Unbleached Kraft Pulp. We can use paper of all descriptions. Address Box 46-728 care Paper Trade Journal. O-17

WANTED

WANTED TO BUY
Folding Box Bd. Mill Machinery
Or
A complete Folding Box Bd. Paper Mill. All correspondence held in strict confidence. State size. Price is no object. Address Box 46-729 care Paper Trade Journal. O-17

WANTED
PAPER
SIDE ROLLS OR SHEETS
Box No. 46-731 care Paper Trade Journal
O-17

WANTED—Roll Grinder for rolls up to 132" face and 30" diameter. Must be in good condition. Motors to be 3/60/440. Address Box 46-638 care Paper Trade Journal. N-7

WANTED TO BUY—Tissue Mill in running condition with or without pulp contract. Principals only. State location, price and full particulars. Address Box 46-715 care Paper Trade Journal. O-31

WANTED — W & P Shredders, Evaporators, Generators and Boilers, Slitters, Cutters, Hydraulic Presses, Sheridan Presses, Dryers. Address Box 46-32 care Paper Trade Journal. TF

WANTED—Spot and Regular supplies Cigarette Paper, Mounted Aluminum Foil, Cellophane and other supplies. Address Box 46-668 care Paper Trade Journal. O-17

WANTED

WANTED

42" Automatic sheeter with Lay Boy. Prefer Beck Model but will consider other makes.

FACIL FABRICS CORP.
185 Sixth Avenue, Paterson, N. J.
O-31

WANTED—Paper Board Machine, capable of producing 35 to 100 tons folding box board daily. Replies held in strictest confidence. Address Box 46-651 care Paper Trade Journal. TF

WANTED—Seybold heavy duty single head four rod die press, 38" x 24". Address Box 46-678 care Paper Trade Journal. O-17

WANTED — DISCARDED PAPER MILL FELTS. HIGHEST PRICES paid for all kinds of discarded paper mill felts. LARGE or SMALL QUANTITIES accepted. Prices quoted immediately on receipt of samples. ADDRESS: GLASER AND YOFFE, INC., 80 NORTH MAIN ST., NATICK, MASS. TF

WANTED TO LEASE OR PURCHASE paper mill; preferably located in the East. Send full information. Address Box 46-724 care Paper Trade Journal. O-24

MISCELLANEOUS

WILL EXCHANGE board for laminating, mounting, lining and die-cutting machinery. Address Box 46-707 care Paper Trade Journal. TF

THE CARTHAGE MACHINE COMPANY
CARTHAGE, NEW YORK
Manufacturer of
Machinery and Equipment for Mechanical and Chemical Pulp Mills and Special Machinery

HIGHLY RATED PAPER CONVERTER SEEKING STEADY SOURCE FOR DRY WAX SULPHITE AND WAXED BLEACHED KRAFT.

If you are a producer of either of these grades and are willing to gamble a little tonnage over the critical period against the time when an order for a few cars a month would really be something to bring into your office, I'm sure it would be to our mutual advantage to get together and talk this over. We can be relied upon to be the type of account which would give you nice tonnage month in and month out throughout the year.
Address Box 46-719 care Paper Trade Journal. N-7

Appleton Wires are Good wires
APPLETON WIRE WORKS, INC. APPLETON, WIS.

PULP MILL MACH'Y FINISHING ROOM MACH'Y
FRICTION CLUTCHES
MOORE & WHITE CO.
PHILADELPHIA, PA.
N. PHILA. STA. PENNA. R.R.
MACHINERY

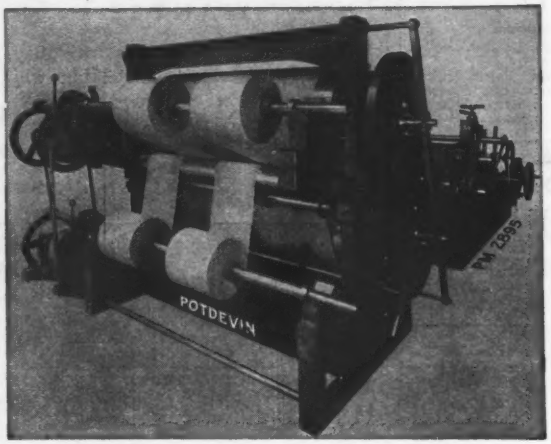
THE MAYER MACHINE COMPANY, INC.
Manufacturers of
Paper Coating Machines
1155 Scottsville Road, Rochester 11, N. Y.
Waxing & Oiling, Carbon, Laboratory, Flat Ream Converting and Measuring and Roadmarking.

DEINKING — DECOLORIZING
K-121-B and K-C-2
COOKING PROCESSES
THE KINSLEY CHEMICAL COMPANY
12500 Berea Road Cleveland, Ohio

STEAM TURBINES
HELICAL GEARS
WORM GEARS
CENTRIFUGAL BLOWERS AND COMPRESSORS
CENTRIFUGAL PUMPS
PROPELLER PUMPS
CLOGLESS PUMPS
MIXED-FLOW PUMPS
DE LAVAL-IMO OIL PUMPS
DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

INDUSTRIAL TYCOL OILS-GREASES
A COMPLETE LINE
OF TYCOL LUBRICANTS SCIENTIFICALLY ENGINEERED FOR EVERY INDUSTRIAL USE
Tide Water Associated Oil Co.
Eastern Division
17 Battery Place, New York, N.Y.

POTDEVIN

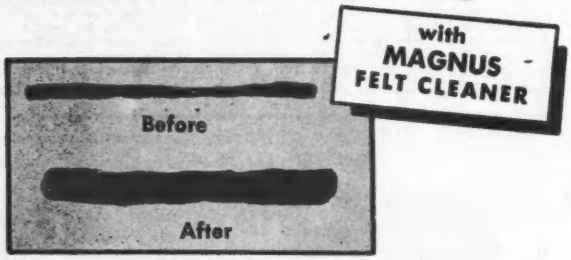


PAPER WAXING MACHINE

Paper Bag Machines, Aniline & Oil Ink Presses, Gluing, Varnishing, Laminating Machines.

POTDEVIN MACHINE CO.
EST. 1891
1223 38TH ST BROOKLYN N.Y.
POTDEVIN

Edge-on View of Board Mill Felt Before and After Reconditioning



THESE two pictures speak for themselves. On the top is a hard, napless board mill felt, as it came from the machine. On the bottom is the same felt after being reconditioned with Magnus Felt Cleaner. Loading gone, softness and porosity restored . . . and with a good stand to the nap.

There's a Magnus Felt Conditioner for every type of paper mill felt, for cleaning on the machines or off . . . for breaking in new felts . . . and for stretching out the period between loadings. They're well worth looking into.

Tell us about your felt conditioning program . . . so that we can make specific recommendations for better results.

1921-1946 25 YEARS OF SERVICE
MAGNUS CHEMICAL COMPANY
24 SOUTH AVENUE, GARWOOD, N. J.
MAGNUS Paper Mill Cleaners

WHERE TO BUY

ABRASIVES
Monsanto Chemical Co.
Norton Co.
Raybestos-Manhattan Inc. Manhattan Rubber Division

ADHESIVES
American Anode Incorporated
American Resinous Chemicals Corp.
Arabol Mfg. Co.
Casein Company of America
Flintkote Company
Kelco Company
Monsanto Chemical Co.
National Adhesives Division of National Starch Products, Inc.
Philadelphia Quartz Co.
Stein, Hall & Co., Inc.
United States Rubber Co.

AGITATORS
Appleton Machine Co.
Biggs Boiler Works Co.
Dilts Machine Works, Inc.
Dorr Company
Downingtown Mfg. Co.
Hardinge Co., Inc.
Improved Paper Machy. Corp.
E. D. Jones & Sons Co.
D. J. Murray Mfg. Co.
Montague Machine Co.
Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.

AIR CONDITIONING
Spray Engrg. Company
Steamaire Company

ATOMIZERS
Steamaire Company

BAG MACHINES
Potdevin Machine Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Weber, Herman G.

BALING MACHINES
Thomas W. Hall Co.

BARKERS AND CHIPPERS
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Carthage Machine Co.
Fibre Making Processes, Inc.
D. J. Murray Mfg. Co.
Valley Iron Works Co.

BARS
Dilts Machine Works, Inc.
E. D. Jones & Sons Co.
The Moore & White Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

BEARINGS
Black-Clawson Company
Jones, E. D., & Sons Co.
Magnus Metal Corp.
Montague Machine Works
Raybestos-Manhattan Inc. Manhattan Rubber Division
Rollway Bearing Co.
Shartle Brothers Machine Co.
SKF Industries, Inc.
Timken Roller Bearing Co.
Valley Iron Works Co.
T. B. Woods' Sons Company

BEATERS & JORDANS
The Appleton Machine Co.
Black-Clawson Company
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Hermann Mfg. Co.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
J. J. Ross Company
Ross Paper Machy. Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works

BED PLATES
Bahr Brothers Mfg. Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Farrel-Birmingham Co., Inc.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

BELTING
Alexander Brothers
Allis-Chalmers Mfg. Co.
The Cincinnati Rubber Mfg. Co.
Raybestos-Manhattan Inc. Manhattan Rubber Division
J. E. Rhoads & Sons
United States Rubber Co.
T. B. Wood's Sons Company
Worthington Pump & Machy. Corp.

BLEACHING BOILERS, ROTARY
The Biggs Boiler Wks. Co.

BLEACHING APPARATUS
The Biggs Boiler Works Co.
Improved Paper Machy. Corp.
E. D. Jones & Sons Co.
Perkins & Sons, Inc., B. F.
Moore & White Co.
Niagara Alkali Co.
Noble & Wood Machine Co.
Pennsylvania Salt Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.

BLOW PIPES & PITS
Carthage Machine Co.
Montague Machine Co.
Moore & White Co.
Murray Mfg. Co., D. J.
Walworth Company

BOILERS
Babcock & Wilcox Co.
Biggs Boiler Works
Foster Wheeler Corp.

BOILERS (Electric)
Steamaire Company

BOTTOMS
Harrington & King Perforating Co.
Kalamazoo Tank & Silo Co.
Valley Iron Works Co.

CALENDERS
Black-Clawson Company
Downingtown Mfg. Co.
Farrel-Birmingham Co., Inc.
Lobdell Car Wheel Co.
Moore & White Co.
Perkins & Son, Inc., B. F.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works
Waldron Corp., John

CASEIN
Casein Company of America

CASTINGS
Appleton Machine Co.
Black-Clawson Company
Carthage Machine Co.
Dilts Machine Works
Downingtown Mfg. Co.
Farrel-Birmingham Co.
Grinnell Company
Hamblet Machine Co.
Hardinge Co., Inc.
E. D. Jones & Sons Co.
Lobdell Car Wheel Co.
Magnus Metal Corp.
Montague Machine Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Union Machine Company
Union Screen Plate Co.
Valley Iron Works Co.

WHERE TO BUY

Walworth Company

CENTRIFUGAL MACHINERY
Bird Machine Co.
De Laval Steam Turbine Co.
Nichols Engrg. & Research Corp.
Ross, J. O., Eng. Co.
Shartle Brothers Machine Co.
Williams Apparatus Co.

CHEMICALS
American Anode, Incorporated
Amer. Cyanamid & Chem. Corp.
Amer. Resinous Chemicals Corp.
Anzul Chemical Co.
Calco Chemical Co.
The Cowles Detergent Co.
Diamond Alkali Co.
Dispersion Process, Inc.
Dow Chemical Company
E. I. du Pont de Nemours & Co., Inc.
Falls Chemical Products Co.
General Dyestuff Corp.
Geigy Co., Inc.
Gottesman & Co.
Hooker Electrochemical Company
Kelco Company
Mallinckrodt Chemical Wks.
The Mathieson Alkali Works, Inc.
Monsanto Chemical Company
National Oil Products Co.
Naugatuck Chemical Div. of U. S. Rubber Co.
Niagara Alkali Company
Paper Makers Chemical Department, Hercules Powder Co.
Pennsylvania Salt Mfg. Co.
Philadelphia Quartz Co.
Pioneer Salt Company
Pittsburgh Plate Glass Co., Columbia Chemical Division
Solvay Sales Corp.
United States Rubber Co.
Witco Chemical Co.
Wyandotte Chemicals Corp.

CLEANING MATERIALS
Adell Chemical Company
Amer. Cyanamid & Chem. Corp.
Bird Machine Co.
The Cowles Detergent Co.
E. I. du Pont de Nemours & Co., Inc.
Paper Makers Chemical Department, Hercules Powder Co.
Magnus Chemical Co.
Monsanto Chemical Co.
Nichols Engrg. & Research Corp.
Oakite Products, Inc.
Pennsylvania Salt Mfg. Co.
Philadelphia Quartz Co.
Pittsburgh Plate Glass Co., Columbia Chemical Division
Solvay Sales Corp.
Wyandotte Chemicals Corp., J. B. Ford Division

CLUTCHES
Appleton Machine Co.
Black-Clawson Company
Hudson Sharp Machine Company
Farrel-Birmingham Co.
Fawick Airflex Co., Inc.
Hardinge Co., Inc.
Rodney Hunt Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Wks.
Stearns Magnetic Mfg. Co.
T. B. Wood's Sons Company

COATING MACHINERY
Hudson Sharp Machine Company
Mayer Machine Co.
Moore & White Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.
Waldron Corporation, John
Weber, Herman G.

COCKS, LUBRICATED PLUGS
American Car & Foundry Co.

COMPRESSORS
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
Ingersoll-Rand Co.
Nash Engineering Co.
Worthington Pump & Machy. Corp.

CONDENSERS
Foster Wheeler Corp.

CONSULTING ENGINEERS
Frederic C. Clark
Ferguson, Hardy S.
Hardy, George F.
Alvin H. Johnson & Co., Inc.
The Kohler System Company
Main, Inc., Chas. T.
The McPherson Company
Roderick O'Donaghue
The Rust Engrg. Co.
J. E. Sirrine & Co.
South Wabash Engrg. Co.
Stone & Webster Engrg. Corp.

CONTROLLERS
Black-Clawson Co.
Cochrane Corp.

CONTROLS
The Bristol Company
Cochrane Corp.
Stickle Steam Specialties Co.

CONVEYORS
Black-Clawson Company
Murray, D. J., Mfg. Co.
Ross Engineering Corp., J. O.

COOLING SYSTEMS
Foster Wheeler Corp.
Steamaire Company

CORES
Elixman Paper Co.
Rodney Hunt Machine Co.
Montague Machine Co.
Smith & Winchester Mfg. Co.
Sonoco Products Co.
Walker-Goulard-Plehn Co.

COUPLINGS
Black-Clawson Company
De Laval Steam Turbine Co.
Farrel-Birmingham Co., Inc.
Hardinge Co., Inc.
E. D. Jones & Sons Co.
Lovejoy Flexible Coupling Co.
Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works
Waldron Corp., John
Westinghouse Electric Corporation
T. B. Wood's Sons Company

CRANES
Northwest Engrg. Co.
Reading Chain & Block Company

CRUSHERS
Fibre Making Processes, Inc.

CUTTERS
Dilts Machine Works
Thomas W. Hall Co.
Noble & Wood Machine Co.
Perkins & Son, Inc., B. F.
The Smith & Winchester Mfg. Co.
South Wabash Engrg. Co.
Taylor Stiles & Co.

DAMPENERS
Perkins & Son, Inc., B. F.
Steamaire Company
Valley Iron Works Co.

DE-INKING
Adell Chemical Company
Dilts Machine Works
Hardinge Co., Inc.
Kinsley Chemical Co.
Shartle Bros. Mach. Co.

DIGESTERS
Biggs Boiler Works Co.
Foster Wheeler Corp.
Pusey & Jones Corp.

DOCTORS
Bird Machine Company

You'll be Sitting Pretty
in the Very Heart of
Industrial America - - -
DETROIT
CLEVELAND
TOLEDO
PITTSBURGH
INDIANAPOLIS
COLUMBUS
DAYTON
CHARLESTON
★when you
sell your paper through
The CENTRAL OHIO
PAPER COMPANY
Paper Merchants and
C-O-N-V-E-R-T-E-R-S
★ We manufacture large quantities of envelopes and school supplies; coat or impregnate paper, cellulose film, foil, acetate, cloth and similar materials. After 70 years of serving well this highly industrialized area we are even better prepared for the future.
THE CENTRAL OHIO PAPER COMPANY
226 NORTH FIFTH STREET - COLUMBUS 16, OHIO
Detroit Cleveland Pittsburgh Dayton
Indianapolis Toledo Charleston

West Virginia Pulp and Paper Company

230 Park Ave.
New York

35 East Wacker Drive
Chicago

Public Ledger Building
Philadelphia Pa.

503 Market St.
San Francisco, Cal.

Manufacturers of

ENGLISH FINISH BOOK
SUPERCALENDERED BOOK
and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Mimeograph, Ledger, Eggshell, Cover and Music Papers, Index Bristol, Post Card and Label Papers, Machine Coated

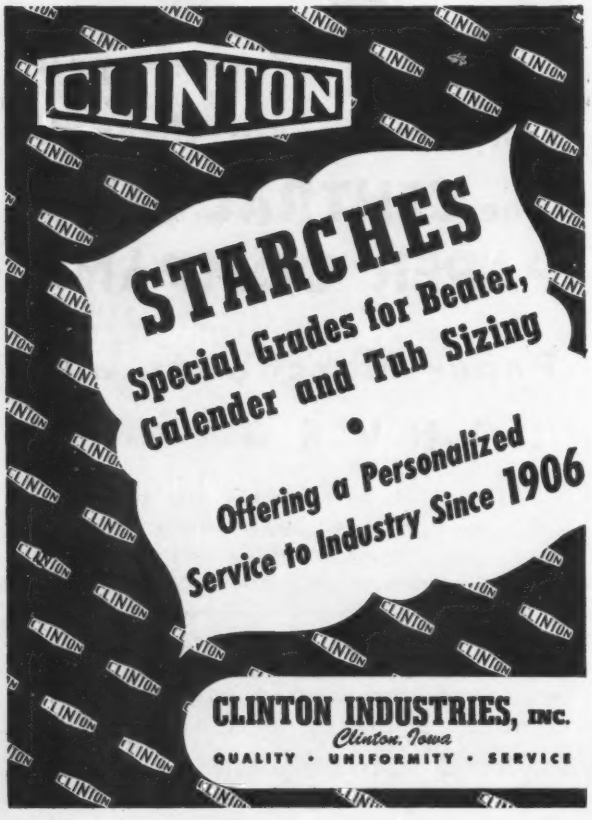
HIGH GRADE COATED BOOK

• • • •

KRAFT WRAPPING AND KRAFT ENVELOPE
KRAFT LINER BOARD
BLEACHED SULPHITE AND SODA PULP
BLEACHED AND UNBLEACHED KRAFT PULP

MILLS:

Mechanicville, New York
Luke, Maryland
Covington, Virginia
Tyrone, Pennsylvania
Williamsburg, Pennsylvania
Charleston, South Carolina



WHERE TO BUY

Black-Clawson Company
Downingtown Mfg. Co.
Lobdell Co.
Lodding Engineering Corp.
Montague Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.

DOCTOR BLADES
Black-Clawson Company
Lodding Engrg. Corp.
Montague Machine Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
Rotogravure Engrg. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers
United States Rubber Co.
Westinghouse Electric Corporation

DRIERS
Black-Clawson Company
Murray Mfg. Co., D. J.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.

DRIVES
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Bird Machine Co.
Black-Clawson Company
Davis, Frank H., Co.
De Laval Steam Turbine Co.
Dilts Machine Works
Downingtown Mfg. Co.
Farrel-Birmingham Co.
General Electric Company
Rodney Hunt Machine Co.
Montague Machine Co.
Moore & White Co.
Murray, D. J., Mfg. Co.
Noble & Wood Machine Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
T. B. Wood's Sons Co.
Valley Iron Works Co.
Westinghouse Electric Corporation

DRUMS
Fibre Making Processes, Inc.

DRYER DRAINAGE
Stickle Steam Specialties Co.

DUSTERS
Appleton Machine Co.
Downingtown Mfg. Co.
Fibre Making Processes, Inc.
E. D. Jones & Son Co.
Moore & White Co.
Noble & Wood Machine Co.
Norwood Engrg. Co.
D. J. Murray Mfg. Co.

DYESTUFFS
Calco Chemical Co.
Ciba Company
E. I. du Pont de Nemours & Co., Inc.
Geigy Co., The
General Dyestuff Corp.
National Aniline Division, Allied Chemical & Dye Corp.
Paper Makers Chemical Department, Hercules Powder Co.
C. K. Williams & Co.
Witco Chemical Co.

EMBOSSING ROLLS
Northern Engraving & Mch. Co.
Roehlen Engraving Works

EVAPORATORS
Black-Clawson Company
Foster Wheeler Corp.
Gustin-Birmingham Mfg. Co., Inc.
Murray, D. J., Mfg. Co.
Swenson Evaporator Co., Div. of Whiting Corp.

FANS
General Electric Co.
B. F. Perkins & Son, Inc.
Ross Engineering Co., J. O.

FEEDERS
Fibre Making Processes, Inc.
Hardinge Co., Inc.
Merrick Scale Mfg. Co.
Leeds & Northrup
Wallace & Tiernan

FELTS
Appleton Woolen Mills
Asten-Hill Mfg. Co.
Bloomfield Woolen Co.
Bulkley, Dunton Pulp Co., Inc.
Draper Bros. Corp.
Huyck & Son, F. C.
Lockport Felt Co.
Mt. Vernon-Woodbury Mills, Inc.
Morey Paper Mill Supply Co.
Orr Felt & Blanket Co.
Shuler & Benninghofen
Waterbury Felt Co.
Waterbury, H. & Sons Co.

FELT CONDITIONERS
Steamaire Company

FELT GUIDES
Moore & White Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Waldron Corp., John

FILLERS
Aluminum Flake Co.
American Colloid Co.
Amer. Cyanamid & Chem. Corp.
Amer. Resinous Chemicals Corp.
Johns-Manville Sales Corp.
W. H. Loomis Talc Corp.
Vanderbilt Co., R. T.
Witco Chemical Co.

FILTERS
Cochrane Corp.
Hardinge Co., Inc.
Moore & White Co.
J. O. Ross Engrg. Corp.
Witco Chemical Co.
Worthington Pump & Machy. Corp.

FLOORING, GRATING & TREADS
Hendrick Mfg. Co.
Klemp Co., W. F.
Norton Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
United States Rubber Co.

FORMING MACHINES
Downingtown Mfg. Co.
Noble & Wood Machine Co.
Oliver United Filters
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.

FRICTION MATERIALS
Johns-Manville Sales Corp.

FREENESS TESTERS
Testing Machines Inc.
Williams Apparatus Co.

GEARS
Black-Clawson Company
De Laval Steam Turbine Co.
Downingtown Mfg. Co.
Farrel-Birmingham Co.
E. D. Jones & Sons Co.
Moore & White Co.
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

GRINDERS
Carthage Machine Co.
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Montague Machine Co.
Norton Company
Samuel C. Rogers and Company
The Sandy Hill Iron & Brass Wks.

GRINDING WHEELS
The Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
Norton Company
United States Rubber Co.

HEAT EXCHANGERS
Foster Wheeler Corp.
Stickle Steam Specialties Co.

HEAT RECOVERY SYSTEMS
Foster Wheeler Corp.
Stickle Steam Specialties Co.

HEATING, VENTILATING AND AIR CONDITIONING
The Appleton Machine Co.
Armstrong Machine Works
Cochrane Corp.
E. D. Jones & Sons Co.
General Electric Co.
Grinnell Company
Leeds & Northrup
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
Ross Engineering Corp., J. O.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Valley Iron Works Co.
Worthington Pump & Machy. Corp.

HOISTS
Appleton Machine Co.
Dilts Machine Works
Rodney Hunt Machine Co.
Ingersoll-Rand Co.
E. D. Jones & Sons Co.
Reading Chain & Block Corp.

HOSE (Air, Water, Suction, etc.)
The Cincinnati Rubber Mfg. Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
United States Rubber Co.

WHERE TO BUY

HUMIDITY CONTROL
Spray Engrg. Company
Steamaire Company
HYDRAPULPERS
Ross Paper Machy. Co.
INSTRUMENTS, TESTING AND MEASURING
Bauer Brothers Co.
N. P. Bowsher
The Bristol Company
Cochrane Corp.
The Foxboro Company
General Electric Company
W. & L. B. Gurley
Leeds & Northrup Company
National Technical Laboratories
B. F. Perkins & Son
Taber Instrument Corp.
Taylor Instrument Cos.
Testing Machines, Inc.
Wallace & Tiernan Instrument Co.
Williams Apparatus Co.
INSULATION
Johns-Manville Sales Corp.
JOINTS
Perfecting Service Company
JORDAN FILLINGS
Appleton Machine Co.
Bahr Brothers Mfg. Co.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
KNIVES
Black-Clawson Company
Dilts Machine Works, Inc.
Hamblet Machine Co.
E. D. Jones & Sons Co.
Valley Iron Works Co.
KNOTTERS
Fibre Making Processes, Inc.
LABORATORY EQUIPMENT
Appleton Machine Co.
Bauer Brothers Co.
The Biggs Boiler Works Co.
W. H. & L. D. Betz
Dilts Machine Works
E. D. Jones & Sons Co.
Leeds & Northrup Company
National Technical Laboratories
Noble & Wood Machine Co.
Taber Instrument Co.
Taylor Instrument Companies
Testing Machines, Inc.
Valley Iron Works
Williams Apparatus Co.
LAY BOYS
Hamblet Machine Co.
Moore & White Co.
Shartle Brothers
LINTER COTTON
The Railway Supply & Mfg. Co.
LUBRICANTS
Gulf Oil Corporation
Gulf Refining Co.
Sinclair Refining Co.
Socony-Vacuum Oil Co., Inc.
Sun Oil Company
The Texas Company
Tide Water Associated Oil Co.
LUBRICATORS
Hills-McCanna Co.
MATERIAL HANDLING
Automatic Transportation Co.
Brooks Equipt. & Mfg. Co.
Northwest Engrg. Co.
Reading Chain & Block Company
MICROMETERS & CALIPERS
Farrel-Birmingham Co.
Montague Machine Co.
Lobdell Car Wheel Co.
Testing Machines, Inc.
Walker-Goulard-Plehn Co.
MOISTENING EQUIPMENT
The Spray Engineering Co.
Steamaire Company
MOISTURE CONTENT CONTROL
Spray Engrg. Company
Steamaire Company
Stickle Steam Specialties Co.
Williams Apparatus Co.
MOTORS AND GENERATORS
Allis-Chalmers Mfg. Co.
Continental Electric Co.
De Laval Steam Turbine Co.
General Electric Co.
Ingersoll-Rand Co.
Reliance Electric & Engrg. Co.
Westinghouse Electric Corporation
NOZZLES
Spray Engrg. Company
Steamaire Company
PACKING BOXES
Johnson Corporation
Shartle Brothers Machine Co.
PACKING
Johns-Manville Sales Corp.
The Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
United States Rubber Co.

PAPER MACHINES
Bagley & Sewall Co.
Black-Clawson Company
Downingtown Mfg. Co.
Thomas W. Hall Co.
Moore & White Co.
Pusey & Jones
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
PAPER MACHINE SLICES
Black-Clawson Company
E. D. Jones & Sons Co.
Montague Machine Co.
The Sandy Hill Iron & Brass Wks.
Valley Iron Works Co.
PAPER MILL BUILDERS
Merritt-Chapman & Scott Corp.
The Rust Engrg. Co.
PAPER TUBE MACHINERY
Theo. Adams
Dietz Machine Works
Thomas W. Hall Co.
Hudson Sharp Machine Company
Langston Co., Samuel M.
South Wabash Engrg. Co.
PASTING MACHINES
Black-Clawson Company
Davis, Frank H., Co.
Murray, D. J., Mfg. Co.
Moore & White Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.
Waldron Corp., John
PENSTOCKS, WELDED STEEL
The Biggs Boiler Works Co.
PERFORATED METAL
Allis-Chalmers Mfg. Co.
Harrington & King Perforating Co.
Hendrick Mfg. Co.
PIPE
Black-Clawson Company
Crane Company
Deublin Company
Grinnell Company
Johns-Manville Sales Corp.
Shartle Brothers Machine Co.
Stowe-Woodward, Inc.
Taylor Forge & Pipe Works
Walworth Company
PLATERS
Perkins & Son, Inc., B. F.
PLATES
Black-Clawson Company
Hendrick Mfg. Co.
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Timken Roller Bearing Co.
PLATE WORK (Steel & Alloy)
The Biggs Boiler Works Co.
PLUGS
Black-Clawson Company
E. D. Jones & Sons Co.
The Noble & Wood Machine Co.
Shartle Brothers Machine Co.
PRESSURE VESSELS, STEEL AND ALLOY
The Biggs Boiler Works Co.
Foster Wheeler Corp.
PRESSES
Black-Clawson Company
Dietz Machine Works
Farrel-Birmingham Co.
Fibre Making Processes, Inc.
Thomas W. Hall Co.
Hudson-Sharp Machine Co.
Paper Converting Machine Co., Inc.
Potdevin Machine Co.
Rotogravure Engineering Co.
Shartle Brothers
South Wabash Engrg. Co.
Valley Iron Works Co.
Waldron Corp., John
Weber Herman G.
Williams Apparatus Co.
PULPERS
Bauer Brothers Co.
PULPS
Andersen Co., J.
Bulkley, Dunton Pulp Co., Inc.
Gottesman & Co., Inc.
Elof Hansson, Inc.
Lyddon & Co. (America) Inc.
Parsons & Whittemore, Inc.
Perkins-Goodwin Co.
Price & Pierce, Ltd.
Pulp and Paper Trading Co.
PULPSTONES
Norton Company
PUMPS
Allis-Chalmers Mfg. Co.
Black-Clawson Company
Buffalo Pumps, Inc.
Dorr Company

118 years of leadership
SERVING THE PAPER INDUSTRY

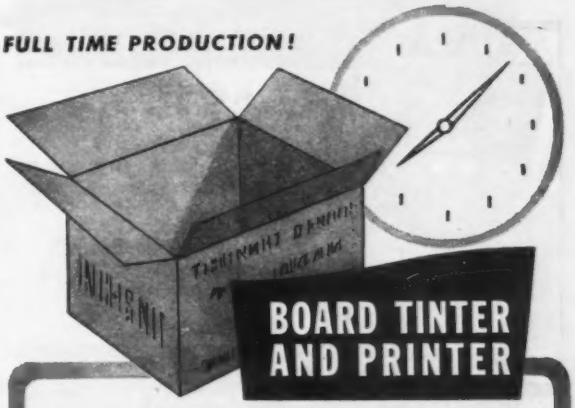
Right equipment—a better product at a lower cost. Look to Smith & Winchester's 118 years of leadership for the *right* equipment.

PAPER MAKING MACHINERY
PAPER BAG MACHINES
MODEL "E" UNDERCUT TRIMMER
JORDANS — FOURDRINIERS
WET AND CYLINDER MACHINES
ROTARY SPOT CUTTERS
REELS AND WINDERS
STUFF AND FAN PUMPS
ROLLS OF ALL KINDS

Bulletins furnished on request. We specialize on custom-built machinery to fit your particular needs.

The SMITH & WINCHESTER Manufacturing Company
SOUTH WINDHAM, CONN.

FULL TIME PRODUCTION!



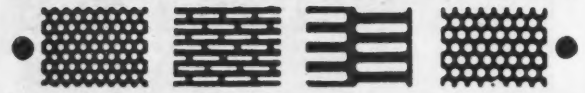
BOARD TINTER AND PRINTER

FOR CARTON ADVERTISING AND IDENTITY

Colored and overprinted shipping cases and containers are in more popular demand than ever. They provide product identification as well as low cost advertising. Hudson-Sharp tinters and overprinters are durable, efficient machines that operate simply and quickly. Resultant quality is higher — costs, lower.

HUDSON-SHARP
MACHINE CO • GREEN BAY • WIS

SCREENS of Perforated Metal



The Harrington & King Perforating Co.

5652 Fillmore St., Chicago 44, Ill. 114 Liberty St., New York 6, N. Y.

Since 1901

Dietz Machine Works

DIETZWORKS PHILA PA

MANUFACTURERS

TOILET ROLL CONVERTING MACHINES
TOWEL ROLL CONVERTERS
SPECIAL MACHINERY
ANILINE PRINTERS
TOWEL INTERFOLDING MACHINES
ROTARY CARD CUTTERS
SLITTERS FOR VULCANIZED FIBRE

126 W. Fontaine St.
PHILADELPHIA 22, PA.

CAMACHINE 19 is a fast winder for newsprint, book and kraft mills, handling webs from 117" to 192".

GET FACTS!

WRITE FOR THIS FOLDER

CAMERON MACHINE COMPANY
61 POPLAR STREET · BROOKLYN 2, N.Y.

WRITE FOR YOUR COPY of this BULLETIN 225

STEARNS Magnetic power transmission devices offer definite savings in operating costs and maintenance expense, provide efficient near or remote control — smooth acceleration with fast and positive stop.

For straight connection or disconnection, indexing or load protection, any of the wide variety of magnetic friction unit applications consult STEARNS MAGNETIC engineers. What's your problem? We invite your inquiry. No obligation.

STEARNS MAGNETIC MFG. CO.
609 S. 28th St. Milwaukee, Wis.

Stearns MAGNETIC
CLUTCHES - BRAKES
PULLEYS
DRUMS - ROLLS
SEPARATORS
MAGNETS
OF ALL KINDS

WHERE TO BUY

Downingtown Mfg. Co.
De Laval Steam Turbine Co.
Hardinge Co., Inc.
Hills-McCanna Co.
Ingersoll-Rand Co.
Johnson Corp.
Moore & White Co.
Morris Machine Works
Nash Engineering Co.
Noble & Wood Machine Co.
Paper Converting Mch. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Steamaire Company
Warren Steam Pump Company
Worthington Pump & Mchy. Corp.

RAG CUTTERS
B. F. Perkins & Son, Inc.
Taylor-Stiles & Co.

RECOVERY SYSTEMS
Bulkley, Dunton Pulp Co., Inc.
Rodney Hunt Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Pusey & Jones
Ross Engineering Corp., J. O.
Valley Iron Works Co.

REELS
Black-Clawson Company
Downingtown Mfg. Co.
De Laval Steam Turbine Co.
Hudson Sharp Machine Company
The Kohler System Company
Montague Machine Co.
Moore & White Co.
Paper Converting Mch. Co.
Rodney Hunt Machine Co.
Rotogravure Engrg. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

REFINERS
Appleton Machine Co.
Bahr Brothers Mfg. Co.
Bauer Brothers Co.
Dilts Machine Works
The Hermann Manufacturing Co.
E. D. Jones & Sons Co.
Murray, D. J., Mfg. Co.
Noble & Wood Machine Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Sprout, Waldron & Co.
Sutherland Refiner Corp.
Valley Iron Works

REGULATORS
Allis-Chalmers Mfg. Co.
Armstrong Machine Works
Bird Machine Company
The Bristol Company
The Brown Instrument Co.
Cochrane Corp.
The Foxboro Company
Jones, E. D., & Sons Co.
General Electric Co.
Johnson Corp.
Leeds & Northrup Company
National Technical Laborstories
Noble & Wood Machine Co.
Shartle Brothers
Stickle Steam Specialties Co.
Taylor Instrument Companies
Wallace & Tiernan
Westinghouse Electric Corporation

RESINS
Amer. Cyanamid & Chemical Corp.
Amer. Resinous Chemicals Corp.
Monsanto Chemical Co.
The Resinous Prod. & Chem. Co.

ROLLS
Appleton Machine Co.
Black-Clawson Company
Downingtown Mfg. Co.
Farrel-Birmingham Co.
Improved Paper Machy. Corp.
Lobdell Co.
Montague Machine Co.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
Perkins, B. F., & Sons Co.
Philbrick Engrg. & Machine Co.
Pusey & Jones Corp.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
Roehlen Engraving Works
J. J. Ross Company
Ross Paper Machy. Co.
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Sinclair Co.
Smith & Winchester Mfg. Co.
Stearns Magnetic Mfg. Co.
Stowe-Woodward, Inc.
United States Rubber Co.
Valley Iron Works Co.
Waldron Corp., John

ROLL COVERS
The Cincinnati Rubber Mfg. Co.
Stowe-Woodward, Inc.

ROLL STANDS
Cameron Machine Co.
The Kohler System Company
Moore & White Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.

ROOFING MATERIALS
Johns-Manville Sales Corp.

ROTARY BOILERS
Biggs Boiler Works

SATURATING MACHINES
Black-Clawson Company
Moore & White Co.
Noble & Wood Machine Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

SAVEALLS
Bulkley, Dunton Pulp Co., Inc.

SCALES
Merrick Scale Mfg. Co.

SCREEN PLATES
Fitchburg Screen Plate Co.
Magnus Metal Corp.
Morey Paper Mill Supply Co.
Testing Machines, Inc.
Union Machine Co.
Union Screen Plate Co.

SCREENS
Allis-Chalmers Mfg. Co.
Appleton Wire Works
Appleton Machine Company
Bird Machine Company
Carthage Machine Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Harrington & King Perforating Co.
Hendrick Manufacturing Co.
E. D. Jones & Sons Co.
Montague Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.

SHEET MACHINES
Thomas W. Hall Co.
The Hermann Manufacturing Co.
Noble & Wood Machine Co.
Rotogravure Engrg. Co.
Valley Iron Works Co.
Williams Apparatus Co.

SHOWER PIPES
Bird Machine Company
A. E. Broughton & Co.
Downingtown Mfg. Co.
Improved Paper Machy. Corp.
Moore & White Co.
Shartle Bros. Mach. Co.
Smith & Winchester Mfg. Co.

SHREDDERS
Bauer Brothers Co.
Carthage Machine Co.

SIZING
Amer. Cyanamid & Chemical Co.
Amer. Resinous Chemicals Corp.
Black-Clawson Company
The Dow Chemical Company
du Pont, E. I., de Nemours & Co.
Flintkote Company
Kelco Company
Monsanto Chemical Co.
National Oil Products Co.
Paper Makers Chemical Department, Hercules Powder Co.
Philadelphia Quartz Co.
Pioneer Salt Company
Socony-Vacuum Co.
Stein, Hall & Co., Inc.

SLIME CONTROL
Falls Chemical Products Co.
Magnus Chemical Co.
Mallinckrodt Chemical Wks.

SLITTERS
Thos. Adams
Black-Clawson Company
Cameron Machine Co.
Carthage Machine Co.
Dietz Machine Works
Downingtown Mfg. Co.
Thomas W. Hall Co., Inc.
Hamblet Machine Co.
Hudson Sharp Machine Company
Langston Co., Samuel M.
Moore & White Co.
D. J. Murray Mfg. Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Smith & Winchester Mfg. Co.
South Wabash Engrg. Co.
Valley Iron Works Co.
Waldron Corp., John

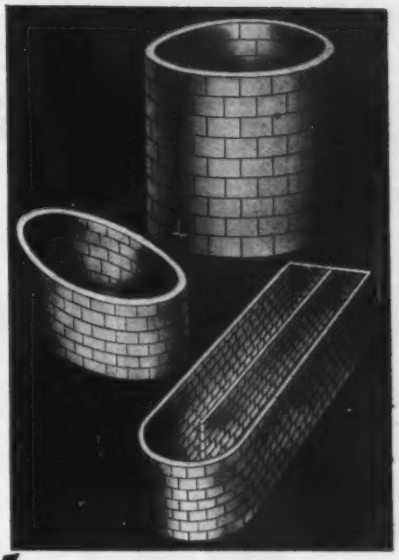
SMOKE STACKS
The Biggs Boiler Works Co.

SOLENOID VALVES
Steamaire Company

WHERE TO BUY

SPRAYING EQUIPMENT
The Spray Engineering Co.
Steamaire Company
STAINLESS STEEL
Anti-Corrosive Metal Products Co., Inc.
STARCH
Amer. Cyanamid & Chemical Corp.
Clinton Industries, Inc.
National Starch Products, Inc.
Stein, Hall & Co., Inc.
STATIC ELIMINATORS
Steamaire Company
STEAM SPECIALTIES
Babcock & Wilcox Co.
Cochrane Corp.
Johnson Corp.
Parfecting Service Company
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co.
STEEL TANKS
The Bigge Boiler Wks. Co.
STRAPPING & STRAPPING MACHINES
Acme Steel Company
The Stanley Works
STUFF CHESTS
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.
SUCTION BOXES
Black-Clawson Company
A. E. Broughton & Co.
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Westinghouse Electric Corp.
SULPHUR
Amer. Cyanamid & Chemical Corp.
Stauffer Chemical Company
Texas Gulf Sulphur Co.
Witco Chemical Company
SULPHUR BURNERS
Valley Iron Works Co.
SULPHUR DIOXIDE
Ansul Chemical Company
SUPERCALENDERS
B. F. Perkins & Son, Inc.
TALC
Amer. Cyanamid & Chemical Corp.
W. H. Loomis Talc Corp.
TANKS
Cochrane Corp.
E. D. Jones & Sons Co.
Kalamazoo Tank & Silo Co.
The Noble & Wood Machine Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
Rodney Hunt
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Stowe-Woodward, Inc.
United States Rubber Co.
Waldron Corp., John
B. F. Perkins & Son, Inc.
Testing Machines, Inc.
THICKENERS, DECKERS AND SAVEALLS
Bird Machine Company
Bulkley, Dunton Pulp Co., Inc.
Carthage Machine Co.
Dilts Machine Works
Dorr Co.
Downingtown Mfg. Co.
Hardinge Co., Inc.
Montague Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.
TITANIUM
E. I. du Pont de Nemours & Co.
Titanium Pigment Co.
R. T. Vanderbilt Co.
Witco Chemical Company
TOOLS
Acme Steel Company
Ingersoll-Rand Co.
The Stanley Works
Walworth Company
TRUCKS
Automatic Transportation Co.
TRAPS
Armstrong Machine Works
Cochrane Corp.
Crane Co.
Grinnell Company.
Johnson Corporation
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co.
TUBS
Rodney Hunt Machine Co.
Noble & Wood Machine Co.
Shartle Brothers
Valley Iron Works Co.
TURBINES
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
General Electric Company
Hunt, Rodney, Mach. Co.
Westinghouse Electric Corp.
Worthington Pump & Machy. Corp.
TURPENTINE RECOVERY
Foster Wheeler Corp.
USED EQUIPMENT
Frank H. Davis Company
Gibbs-Brower Co.
Thomas W. Hall Co.
Noble & Wood Machine Co.
Rotogravure Engrg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
Ross Paper Machinery Co.
Shartle Brothers Machine Co.
VALVES
The Bristol Company
Cochrane Corp.
Crane Company
Dilts Machine Works
Fibre Making Processes, Inc.
The Foxboro Company
E. D. Jones & Sons Co.
Magnus Metal Corp.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
The Permutit Company
William Powell Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Taylor Instrument Companies
Valley Iron Works Co.
Walworth Company
VALVES, LUBRICATED PLUG
American Car & Foundry Co.
VATS & VAT PARTS
Union Machine Co.
Union Screen Plate Co.
WASHERS
Bird Machine Company
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Rodney Hunt Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.
WATER CONDITIONING
Cochrane Corp.
The Permutit Company
WATER DISPERSIONS
American Anode, Inc.
WAXING MACHINERY
Black-Clawson Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.
WELDING EQUIPMENT
Allis-Chalmers Mfg. Co.
General Electric Company
Walworth Company
Westinghouse Electric Corp.
WET MACHINES
Black-Clawson Co.
Carthage Machine Co.
Downingtown Mfg. Co.
Moore & White Co.
Montague Machine Co.
Noble & Wood Machine Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
WINDERS AND REWINDERS
Black-Clawson Company
Cameron Machine Co.
Dietz Machine Works
Downingtown Mfg. Co.
Thomas W. Hall Co.
Hudson-Sharp Mach. Co.
Langston Co., Samuel M.
The Kohler System Company
Montague Machine Co.
Moore & White Co.
Paper Converting Mch. Co.
Potdevin Machine Co.
Pusey & Jones Corp.
Rotogravure Engrg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Wks.
Smith & Winchester Mfg. Co.
South Wabash Engrg. Co.
Waldron Corp., John
WIRES
Appleton Wire Works
Black-Clawson Company
Bulkley, Dunton Pulp Co., Inc.
Cheney Bigelow Wire Works
Hayden Wire Works
International Wire Works
Lindsay Wire Weaving Co.
Shartle Brothers Machine Co.
WOOD PEELERS
Nekoosa Fdy. & Mch. Wks., Inc.
WOOD SPLITTERS
Carthage Machine Co.

ANY SIZE *or* SHAPE *of* PAPER MILL TANK *or* CHEST *can be built with*



Kalamazoo GLAZED TILE

Consult our Engineers for ESTIMATES

Complete Erection Service

KALAMAZOO TANK & SILO COMPANY
Kalamazoo, Michigan : U.S.A.

PRICE & PIERCE, Ltd.

WOOD PULP & PAPER AGENTS

for domestic and export

60 EAST 42nd STREET
New York 17, N.Y.

The answer to your wood peeling problem

THE NEKOOSA PORTABLE WOOD PEELER

With it 10 men can do the work of 50.

You Are Sure

In these days of labor shortages it has been impossible for many mills to obtain enough peeled wood. Because of the increased production per man the Nekoosa Portable Wood Peeler has made it possible for many mills to obtain peeled wood, which otherwise would have had to handle it rough.

Thus this machine helps assure you of a supply of peeled wood, even though there is a shortage of woods labor.

Large Capacity
Low Cost Operation
No Wood Loss

Nekoosa Foundry & Machine Works Inc.

Nekoosa, Wis. **U. S. A.**

ALPHABETICAL INDEX TO ADVERTISERS IN THIS ISSUE

A

Allis-Chalmers Mfg. Co. 3
Ames, B. C., Company 5
Appleton Wire Works, Inc. ... 47
Appleton Woolen Mills 39
Asten Hill Mfg. Co. ...Front Cover

B

Black-Clawson Co. 41
Blaw-Knox Company 21

C

Cameron Machine Co. 52
Carthage Machine Co. 47
Central Ohio Paper Co. 49
Classified Advertising 40
Clinton Industries, Inc. 50

D

Davis, Frank H., Co. 44
DeLaval Steam Turbine Co. ... 47
Dietz Machine Works 52
Dilts Machine Co. 41
Downingtown Mfg. Co. 2

F

Fawick-Airflex Co. 17
Ferguson, Hardy S. 39

G

Gibbs-Brower Co., Inc. 44

H

Hall, Thomas W., Company .. 44
Hanson Inc., Elof 15
Hardy, George S. 39
Harrington & King Perf. Co. .. 52
Hudson Sharp Mch. Co. 51

K

Kalamazoo Tank & Silo Co. ... 53
Kinsley Chemical Company ... 47

L

Langston Co., Samuel M. 39
Lyddon & Company 23

M

Magnus Chemical Co. 48
Main, Inc., Chas. T. 39
Mayer Machine Co. 47
Mead Corporation 20
Merritt-Chapman & Scott Corp. 39
Michigan Steel Casting Co. ... 39
Moore & White Company 47
Morris Machine Wks. 19

N

National Annealing Box Co. .. 39
Nekoosa Fdy. & Mch. Co. 54
Northern Engr. & Machine Co. 39

O

O'Donoghue, Roderick 39
Osborne Paper Mill Equipt. Co. 45

P

Parsons & Whittemore 23
Pennotex Oil Corp. 39
Potdevin Machine Co. 48
Price & Pierce, Ltd. 53

R

Railway Supply & Mfg. Co.... 4
Raymond Service, Chas. P. ... 40
Ross, J. J., Company 42
Ross Paper Machinery Co. 43

S

Shartle Bros. Machine Co. ... 41
Smith & Winchester Mfg. Co.. 51
Socony Vacuum Oil Co. Back Cover
Stearns Magnetic Mfg. Co. 52

T

Texas Gulf Sulphur Co. 55
Tidewater Assoc. Oil Co. 47

V

Vanderbilt, R. T., Co. 6

W

West Va. Pulp & Paper Co. .. 50
Wyandotte Chemicals Corp. ... 24

Producers of

SULPHUR

Large stocks carried at all times, permitting prompt shipments . . . Uniformly high purity of 99½% or better . . . Free of arsenic, selenium and tellurium.

★

TEXAS GULF SULPHUR CO. INC.

75 E. 45th Street New York 17, N.Y.

Mine: Newgulf, Texas

Here Oil Holds Back a Giant Thrust

—*inside this Jordan Bearing!*

Get this Complete Lubrication Program for all your machines

- **Lubrication Study of Your Entire Plant**
- **Recommendations to Improve Lubrication**
- **Lubrication Schedules and Controls**
- **Skilled Engineering Counsel**
- **Progress Reports of Benefits Obtained**

GARGOYLE Lubricants

AS PULP is forced through your Jordan engine, this thrust bearing must resist tremendous pressures—pressures that tend to force the whirling "plug" endwise out of the "shell."

With thrust pressures like this, it takes an unusually good oil to stick to the bearing surfaces, and to protect against metal-to-metal contacts that result in heat, friction and wear.

For wick-fed Jordan thrust bearings such as the one above, you can count on Gargoyle Vactra Oils to provide correct lubrication. They are designed to form tough, persistent films that cling to metal and resist rupture under heavy thrust pressures.

On Jordans with grease-packed anti-friction thrust bearings, specify Gargoyle Grease BRB No. 3. This grease remains stable over long periods, forms strong films that guard against wear and corrosion.

Socony-Vacuum Oil Co., Inc.

and Affiliates: Magnolia Petroleum Company, General Petroleum Corporation